Notices

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Macrovision Statement

If your computer has a DVD drive and an analog TV Out port, the following paragraph applies:

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

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Important Safety Information

Safety Instructions

Your system is designed and tested to meet the latest standards for safety of information technology equipment. However, to ensure safe use of this product, it is important that the safety instructions marked on the product and in the documentation are followed.

Always follow these instructions to help guard against personal injury and damage to your system.

Setting Up your System

- Read and follow all instructions marked on the product and in the documentation before you operate your system. Retain all safety and operating instructions for future use.
- Do not use this product near water or a heat source such as a radiator.
- Set up the system on a stable work surface.
- The product should be operated only with the type of power source indicated on the rating label.
- Ensure that the electrical outlet you are using to power your equipment is easily accessible in case of fire or short circuit.
- If your computer has a voltage selector switch, make sure that the switch is in the proper position for your area.
- Openings in the computer case are provided for ventilation. Do not block or cover these openings. Make sure you provide adequate space, at least 6 inches (15 cm), around the system for ventilation when you set up your work area. Never insert objects of any kind into the computer ventilation openings.
- Ensure that the fan vents on the bottom of the casing are clear at all times. Do not place the computer on a soft surface, doing so will block the bottom vents.
- If you use an extension cord with this system, make sure that the total ampere rating on the products plugged into the extension cord does not exceed the extension cord ampere rating.

Care During Use

- Do not walk on the power cord or allow anything to rest on it.
- Do not spill anything on the system. The best way to avoid spills is to not eat or drink near your system.
- Some products have a replaceable CMOS battery on the system board. There is a danger of explosion if the CMOS battery is replaced incorrectly. Replace the battery with the same or equivalent type recommended by the manufacturer. Dispose of batteries according to the manufacturer's instructions. If the CMOS battery requires replacement insure that a qualified technician performs the task
- When the computer is turned off, a small amount of electrical current still flows through the computer. To avoid electrical shock, always unplug all power cables, remove the battery and modem cables from the wall outlets before cleaning the system.
- Unplug the system from the wall outlet and refer servicing to qualified personnel if:
  - The power cord or plug is damaged.
  - Liquid has been spilled into the system.
  - The system does not operate properly when the operating instructions are followed.
  - The system was dropped or the casing is damaged.
  - The system performance changes.

Replacement Parts and Accessories

Use only replacement parts and accessories recommended by manufacturer.

To reduce the risk of fire, use only No. 26 AWG or larger telecommunications line cord.

Do not use this product in areas classified as hazardous. Such areas include patient care areas of medical and dental facilities, oxygen rich environments, or industrial areas.

Battery Disposal

Do not put rechargeable batteries or products powered by non-removable rechargeable batteries in the garbage.

Contact the Samsung Helpline for information on how to dispose of batteries that you cannot use or recharge any longer.

Follow all local regulations when disposing of old batteries.

Laser Safety

All systems equipped with CD or DVD drives comply with the appropriate safety standards, including IEC 825. The laser devices in these components are classified as "Class 1 Laser Products" under a US Department of Health and Human Services (DHHS) Radiation Performance Standard. Should the unit ever need servicing, contact an authorized service location.

Laser Safety Note:
Use of controls or adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure. To prevent exposure to laser beams, do not try to open the enclosure of a CD or DVD drive.

Power Cord Requirements

The power cord set (wall plug, cable and AC adapter plug) you received with your computer meets the requirements for use in the country where you purchased your equipment.

Power cord sets for use in other countries must meet the requirements of the country where you use the computer. For more information on power cord set requirements, contact your authorized dealer, reseller, or service provider.

General Requirements

The requirements listed below are applicable to all countries:

- The length of the power cord set must be at least 6.00 feet (1.8m) and a maximum of 9.75 feet (3.0m).
- All power cord sets must be approved by an acceptable accredited agency responsible for evaluation in the country where the power cord set will be used.
- The power cord set must have a minimum current capacity of 7 A and a nominal voltage rating of 125 or 250 volts AC, as required by each country's power system.
- The appliance coupler must meet the mechanical configuration of an EN 60 320/IEC 320 Standard Sheet C7 connector, for mating with appliance inlet on the computer.

Regulatory Compliance Statements

Wireless Guidance

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4 GHz Band, may be present (embedded) in your notebook system. The following section is a general overview of considerations while operating a wireless device.

Additional limitations, cautions, and concerns for specific countries are listed in the specific country sections (or country group sections). The wireless devices in your system are only qualified for use in the countries identified by the Radio Approval Marks on the system rating label. If the country you will be using the wireless device in, is not listed, please contact your local Radio Approval agency for requirements. Wireless devices are closely regulated and use may not be allowed.

The power output of the wireless device or devices that may be embedded in your notebook is well below the RF exposure limits as known at this time. Because the wireless devices (which may be embedded into your notebook) emit less energy than is allowed in radio frequency safety standards and recommendations, manufacturer believes these devices are safe for use. Regardless of the power levels, care should be taken to minimize human contact during normal operation.

As a general guideline, a separation of 20 cm (8 inches) between the wireless device and the body, for use of a wireless device near the body (this does not include extremities) is typical. This device should be used more than 20 cm (8 inches) from the body when wireless devices are on and transmitting.

This transmitter must not be collocated or operate in conjunction with any other antenna or transmitter.

Some circumstances require restrictions on wireless devices. Examples of common restrictions are listed below:

Radio frequency wireless communication can interfere with equipment on commercial aircraft. Current aviation regulations require wireless devices to be turned off while traveling in an airplane. 802.11B (also known as wireless Ethernet or Wifi) and Bluetooth communication devices are examples of devices that provide wireless communication.

In environments where the risk of interference to other devices or services is harmful or perceived as harmful, the option to use a wireless device may be restricted or eliminated. Airports, Hospitals, and Oxygen or flammable gas laden atmospheres are limited examples where use of wireless devices may be restricted or eliminated. When in environments where you are uncertain of the sanction to use wireless devices, ask the applicable authority for authorization prior to use or turning on the wireless device.

Every country has different restrictions on the use of wireless devices. Since your system is equipped with a wireless device, when traveling between countries with your system, check with the local Radio Approval authorities prior to any move or trip for any restrictions on the use of a wireless device in the destination country.

If your system came equipped with an internal embedded wireless device, do not operate the wireless device unless all covers and shields are in place and the system is fully assembled.

Wireless devices are not user serviceable. Do not modify them in any way. Modification to a wireless device will void the authorization to use it. Please contact manufacturer for service.

Only use drivers approved for the country in which the device will be used. See the manufacturer System Restoration Kit, or contact manufacturer Technical Support for additional information.

United States of America

Unintentional Emitter per FCC Part 15

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generate uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions may cause harmful interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet helpful: “Something About Interference.” This is available at FCC local regional offices. Our company is not responsible for any radio or television interference caused by unauthorized modifications of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by our company. The correction will be the responsibility of the user. Use only shielded data cables with this system.

Intentional emitter per FCC Part 15

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4 GHz Band, may be present (embedded) in your notebook system. This section is only applicable if these devices are present. Refer to the system label to verify the presence of wireless devices.

Wireless devices that may be in your system are only qualified for use in the United States of America if an FCC ID number is on the system label.

The FCC has set a general guideline of 20 cm (8 inches) separation between the device and the body, for use of a wireless device near the body (this does not include extremities). This device should be used more than 20 cm (8 inches) from the body when wireless devices are on. The power output of the wireless device (or devices), which may be embedded in your notebook, is well below the RF exposure limits as set by the FCC.

This transmitter must not be collocated or operate in conjunction with any other antenna or transmitter.

Operation of this device is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

Wireless devices are not user serviceable. Do not modify them in any way. Modification to a wireless device will void the authorization to use it. Contact manufacturer for service.

FCC Statement for Wireless LAN use:
"While installing and operating this transmitter and antenna combination the radio frequency exposure limit of 1mW/cm2 may be exceeded at distances close to the antenna installed. Therefore, the user must maintain a minimum distance of 20cm from the antenna at all times. This device can not be colocated with another transmitter and transmitting antenna."

FCC Part 68

This equipment compiles with part of the FCC rules. On the back of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

This equipment uses the following USOC jacks : RJ11C

An FCC compliant telephone cord and modular plug is provided with this equipment. This equipment is designed to be connected to the telephone network or promises wiring using a compatible modular jack which is Part 68 compliant. See Installation Instructions for details.

The REN is used to determine the quantity of devices which may be connected to telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by total RENs, contact the local telephone company to determine the maximum REN for the calling area.

If the terminal equipment causes harm to the telephone network, the Telephone Company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advanced notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with this equipment (Modem) for repair or warranty information, please contact your local distributor. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

The user must use the accessories and cables supplied by the manufacturer to get optimum performance from the product.

No repairs may be done by the customer.

This equipment cannot be used on public coin phone service provided by the telephone company. Connection to party line service is subject to state tariffs.

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device, including fax machines, to send any message unless such message clearly contains in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business or other entity, or other individual sending the message and the telephone number of the sending machine or such business, other entity, or individual. (The telephone number provided may not be any number for which charges exceed local or long-distance transmission charges.)

In order to program this information into your fax machine, refer to your communications software user manual.

Canada

Unintentional Emitter per ICES-003

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limitesapplicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par Industrie Canada.

Intentional Emitter per RSS 210

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4 GHz Band, may be present (embedded) in your notebook system. This section is only applicable if these devices are present. Refer to the system label to verify the presence of wireless devices.

Wireless devices that may be in your system are only qualified for use in Canada if an Industry Canada ID number is on the system label.

As a general guideline, a separation of 20 cm (8 inches) between the wireless device and the body, for use of a wireless device near the body (this does not include extremities) is typical. This device should be used more than 20 cm (8 inches) from the body when wireless devices are on.

The power output of the wireless device (or devices), which may be embedded in your notebook, is well below the RF exposure limits as set by Industry Canada.

This transmitter must not be collocated or operate in conjunction with any other antenna or transmitter.

Operation of this device is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

To prevent radio interference to licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

Wireless devices are not user serviceable. Do not modify them in any way. Modification to a wireless device will void the authorization to use it. Contact manufacturer for service.

Telecommunications per DOC notice (for products fitted with an IC-compliant modem)

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operation, and safety requirements. The Department does not guarantee the equipment will operate to the users' satisfaction.

Before installing this equipment, users should make sure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the inside wiring associated with a single-line individual service may be extended by means of a certified connector assembly. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should make sure, for their own protection, that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

To avoid electrical shock or equipment malfunction do not attempt to make electrical ground connections by yourself. Contact the appropriate inspection authority or an electrician, as appropriate.

The **Ringer Equivalence Number** (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

European Union

The following information is only applicable to systems labeled with the CE mark CE.

European Directives

This Information Technology Equipment has been tested and found to comply with the following European directives:

- EMC Directive 89/336/EEC with amending directives 92/31/EEC & 93/68/EEC as per
  - EN 55022 Class B
  - EN 61000-3-2
  - EN 61000-3-3
  - EN 55024
- Low Voltage Directive (Safety) 73/23/EEC as per EN 60950(A1/A2/A3/A4/A11)
- Radio and Telecom Terminal Equipment Directive 199/5/EC as per
  - CTR21 (if fitted with a modem device)
  - ETS 300 328 (if fitted with a 2.4 GHz band embedded wireless device)
  - ETS 301 489-1 (if fitted with a 2.4 GHz band embedded wireless device)
  - ETS 301 489-17 (if fitted with a 2.4 GHz band embedded wireless device)

European Radio Approval Information (for products fitted with EU-approved radio devices)

This Product is a Notebook computer; low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4 GHz band, may be present (embedded) in your notebook system which is intended for home or office use. This section is only applicable if these devices are present. Refer to the system label to verify the presence of wireless devices.

Wireless devices that may be in your system are only qualified for use in the European Union or associated areas if a CE mark CE with a Notified Body Registration Number and the Alert Symbol is on the system label.

The power output of the wireless device or devices that may be embedded in you notebook is well below the RF exposure limits as set by the European Commission through the R&TTE directive.

European States qualified under wireless approvals:

EU	Austria, Belgium, Denmark, Finland, France (with frequency restrictions), Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden and the United Kingdom.
Accept EU	Iceland, Liechtenstein, Norway and Switzerland

European States with restrictions on use:

EU	In France, the frequency range is restricted to 2446.5-2483.5 MHz for devices above 10 mW transmitting power such as wireless LAN.
Accept EU	No limitations at this time.

European Telecommunication Information (for products fitted with EU-approved modems)

Marking by the symbol CE indicates compliance of this equipment to the Radio and Telecom Terminal Equipment Directive 1999/5/EC. Such marking is indicative that this equipment meets or exceeds the following technical standards:

CTR 21 – Attachment requirements for pan-European approval for connection to the analogue Public Switched Telephone Networks (PSTNs) of TE (excluding TE supporting voice telephony services) in which network addressing, if provided, is by means of Dual Tone Multi-Frequency (DTMF) signaling.

Although this equipment can use either loop disconnect (pulse) or DTMF (tone) signaling, only the performance of the DTMF signaling is subject to regulatory requirements for correct operation. It is therefore strongly recommended that the equipment is set to use DTMF signaling for access to public or private emergency services. DTMF signaling also provides faster call setup.

This equipment has been approved to Council Decision 98/482/EEC—"CTR 21" for Pan-European single terminal connection to the Public Switched Telephone Network (PSTN).

However, due to differences between the individual PSTNs provided in different countries, the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN termination point. In the event of problems, you should contact manufacturer Technical Support.

Using Your Documentation

Congratulations on your purchase of a notebook computer with the Windows® XP operating system. Whether you are new to using a portable computer or are an experienced user, this user's manual can help you get the most from your computer.

Manual Documentation Conventions

Information Icons

Three icons and their associated messages appear in this manual. The information icons are placed before the step/information they apply to:

Warning:
Indicates the possibility of personal injury.

Caution:
Warns you of possible damage to equipment or data.

Note:
Informs you of special circumstances.

Technical Information:
Informs you of special requirements or limitations for use of item(s).

Keyboard Conventions

Keys that you need to press to perform certain functions are displayed in the manual in brackets. For example:

<Ctrl> indicates the control key (**Ctrl** on the keyboard).

If you need to press two keys at the same time, the key names are shown joined by a plus sign. For example:

<Fn+F8> means that you should press the **Fn** key and hold it and then press the **F8** key.

CD-ROM Device Naming Convention

In many installation programs you will have to get a program from the CD-ROM device. The program installation sequence assumes that the CD is drive d:\, however this is not always the case. The name of the CD-ROM drive is the letter following the letter assigned to your last HDD. For instance, if you have one HDD with two partitions, the HDD is drives C: and D: and the CD-ROM drive is then drive E.

Touchpad Conventions

You may be asked to click or double-click on items on the display screen. As a general note the touchpad actions act much in the same way as a wheel mouse, any differences are explained fully.

The object that needs to be clicked upon will be displayed in **Bold** text or shown in a small figure such as the **"Start Button"** shown on the right =>.

Table 1. Touchpad Click Conventions

Action	Process
Click	Depress the touchpad left button and release
Double-click	Quickly click the left touchpad button two times

Windows Conventions:
Almost all "Windows" programs will display the name/function of a button or icon if you place the touchpad pointer on the item you want information about.

Software User Documentation

Your computer is shipped from the factory with several software programs installed. The software may include its own online or printed documentation. Refer to the documentation or the Help options in the software for more information.

The figures and illustrations in this manual may not be identical to those on your system.

General Icon Note:
Some of the Icons used in Windows XP may be placed on the taskbar by selecting **(ex: Place the volume icon in the taskbar)** in the properties dialog box.

Getting Started

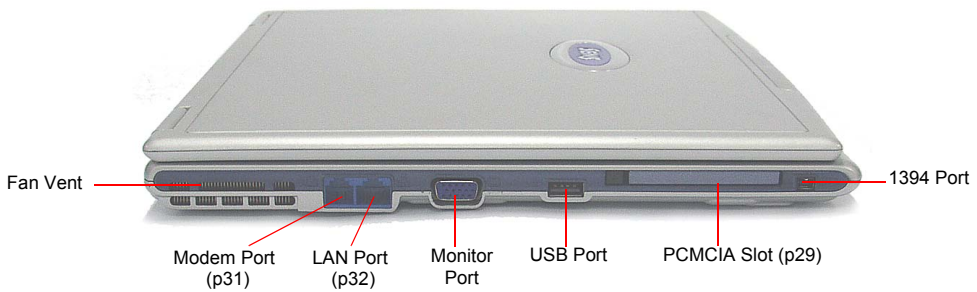
Introducing Your Computer

The next section will explain the location of all of the buttons, status indicators and equipment needed to operate your notebook computer.

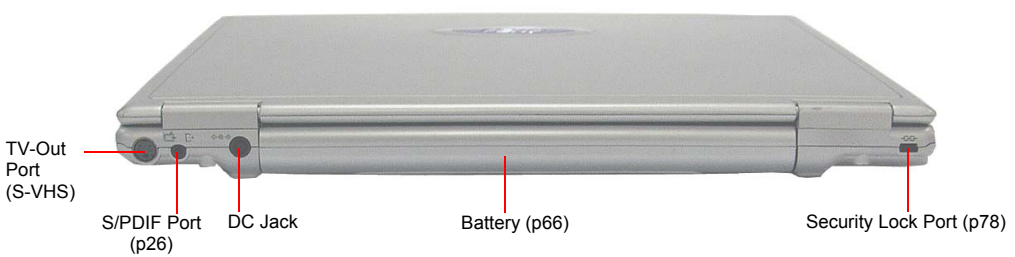
Front

Right Side

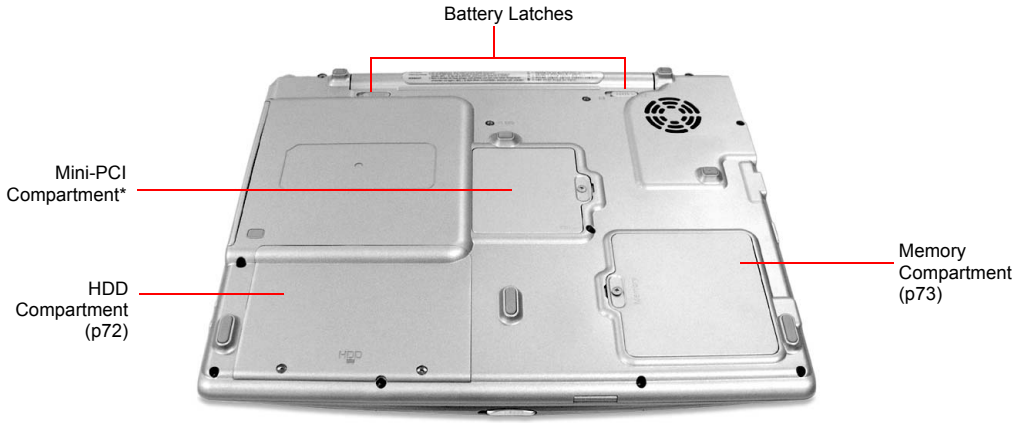
Left Side



Back Side



Bottom



* Wireless communication module(option, p35) is installed in the mini PCI compartment.

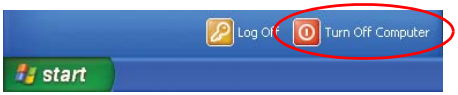
Turning the Computer On and Off

To turn on the computer

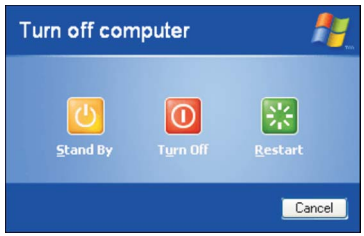
1. Insert the battery and connect the AC adapter according to the Installation Guide.
2. Slide the LCD latch to the right and open the LCD panel.
3. Press the power button.

To turn off the computer

1. Click the **start** button ( ) on the taskbar.
2. Click **Turn Off Computer**.



3. Click **Turn Off**.

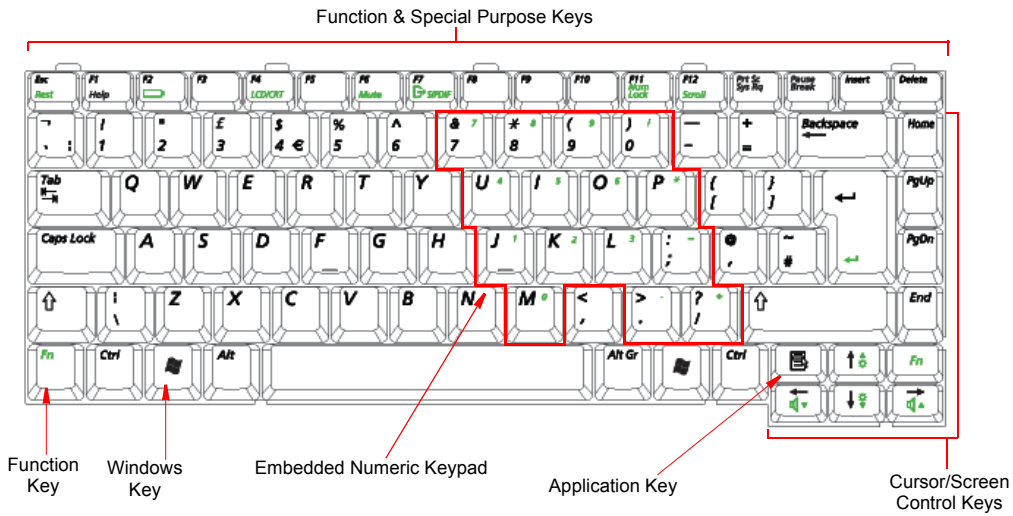


If the computer is not turned off properly due to a system error, press **<Ctrl>+<Alt>+<Delete>**. When [Windows Task Manager] dialogs appears, click **Shut Down > Turn Off** to turn off the computer. Your unsaved work may be damaged.

If **<Ctrl>+<Alt>+<Delete>** keys do not operate either, press the power button for more than 4 seconds to turn off the computer. Your unsaved work may be damaged. When you turn on the computer next time, it will perform a disk checking process.

Using the Keyboard

Your computer has an 87/88-key keyboard. By pressing designated key combinations, you can have access to all the key functions of a full-sized keyboard.



Although the layout of the keys on your computer's keyboard is different from that on a desktop computer's keyboard, the keyboard feels like a full-sized keyboard when you use it.

The keys on the keyboard can be grouped into the following categories:

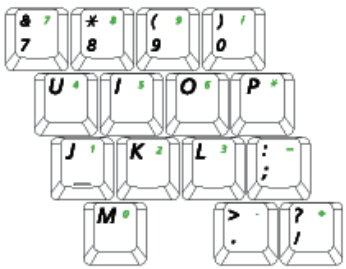
- Full-sized Alphanumeric typewriter keys are arranged like a standard typewriter keyboard and are used for text entry. The Windows keys on either side of the spacebar open Windows menus and perform other special functions.
- Function keys, when pressed together with the **<Fn>** key, enable special functions.
- Cursor and Screen control keys move the cursor. They may perform other functions, depending on your software.

To clean the computer keyboard, use slightly damp cotton swabs. Scrub the keys and the surface around the keys.

Do not allow liquid to drip into the keyboard or you may damage the keyboard.

Using the Numeric Keypad

Your keyboard includes a numeric keypad, which is a group of keys that you can set to type numbers and mathematical symbols, such as the plus sign. A number or symbol on the left corner of each keypad key shows its numeric function.



Press **<Fn+F11>** to turn on the embedded numeric keypad. The numeric functions of the keypad are enabled and the Num Lock LED turns on. (See ”Reading the Status Indicators” on page 16 for the location of the Num Lock LED.)

While the numeric functions are enabled, you can temporarily return a key to its normal function by pressing the key and the **<Fn>** key. For example to type the letter *m,* press **<Fn+M>**, this operation displays the letter **m**.

To turn the numeric keypad off, press **<Fn+F11>** again. The Num Lock LED turns off.

Using Special Function Keys

The function key activates special functions when it is pressed in combination with another keys. Table 2 shows the special key combinations.

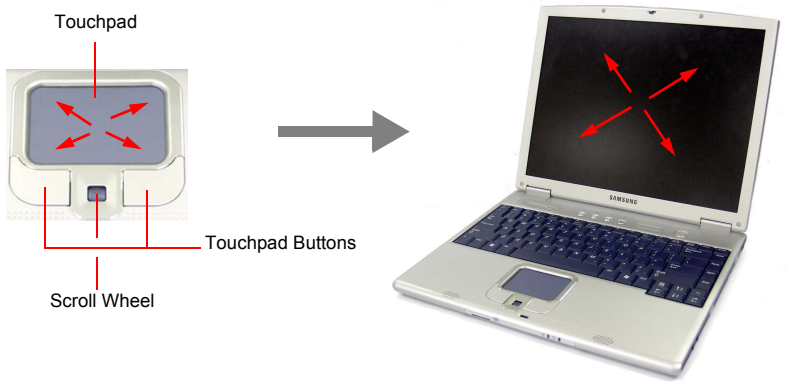
Table 2. Description of Special Function Key Combinations

<Fn> Key Combinations	Key Name	Key Function	
<Fn+Esc>	**Esc** **Rest**	*Rest*	Puts the computer into Suspend mode. To resume normal operation from rest, press the power button.
<Fn+F2>	**F2** **Gauge**	*Gauge*	Displays the battery gauge and the power source in the upper-left corner of your screen. The gauge closes in a few seconds.
<Fn+F4>	**F4** **LCD/CRT**	*LCD/CRT*	Switches the display between the LCD, the external display device, and simultaneous display on both the LCD and the external display device.
<Fn+F6>	**F6** **Mute**	*Mute*	Mutes the audio.
<Fn+F7>	**F7** **S/PDIF**	*S/PDIF*	Toggles the S/PDIF function On/Off.
<Fn+F11>	**F11** **Num Lock**	*Num Lock*	Activates the numeric keypad.
<Fn+F12>	**F12** **Scroll**	*Scroll*	In some applications, sets the cursor-control keys to scroll the page up or down while the cursor position does not change. Pressing key combination again turns off the scrolling function.
<Fn+Up Arrow>	**Up Arrow**	*Brightness Up*	Increases the LCD brightness.
<Fn+Down Arrow>	**Down Arrow**	*Brightness Down*	Decreases the LCD brightness.
<Fn+Right Arrow>	**Right Arrow**	*Volume Up*	Increases the audio volume.
<Fn+Left Arrow>	**Left Arrow**	*Volume Down*	Decreases the audio volume.

When you press a function key combination, the system sound may be temporarily muted.

Using the Touchpad

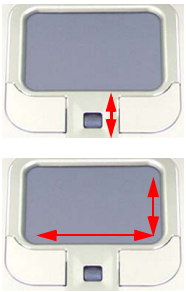
On Windows, you always see a small graphical image on the screen that indicates the location where you can take the next action. This image is called a pointer, and is usually displayed in arrow shape ( ) or 'I' shape ( ).



The touchpad on your computer allows you to move the pointer on the LCD screen, just like a mouse that is used with a desktop computer. The touchpad buttons allow you to take actions with the pointer, such as selecting an item or executing a command. The scroll wheel between the touchpad buttons moves the displayed area up and down within a window.

You can use various actions with your touchpad as described below.

Action	Function	Process
Move	Move the pointer	Place your finger on the touchpad and slide your finger to a destination.
Click	Select an object, open a menu, or execute a button	Place the pointer over an object, then press left touchpad button once. Or, place the pointer over an object, then tap the touchpad once with your finger.
Double-Click	Launch a program or open a file	Place the pointer over an object, then quickly press left touchpad button twice. Or, place the pointer over an object, then quickly tap the touchpad twice with your finger.
Right-Click	Display a short cut menu	Place the pointer over an object, then press right touchpad button once.
Drag	Move an object, or select an area or multiple objects	Place the pointer over an object or on a starting location. While pressing the left touchpad button, press down on the touchpad and slide your finger to a destination or ending location.

Action	Function	Process
Scroll 	Display upper/lower/left/right part of the content within a window (Applicable to only some programs)	Place your finger on the scroll wheel, and roll the wheel up or down. Or, place your finger on the right edge or bottom edge of the touchpad and move vertically or horizontally.

Make sure to use your finger to move the pointer with the touchpad. Do not use any sharpened tool because it may damage your touchpad.

Scroll Wheel Use

If the scroll wheel does not function properly, install the scroll wheel driver provided on the Software CD.

Hot Keys

You may program the four keys to the left of the power button to start any program you have installed on your computer.

The default settings for these keys are:

Icon	Name	Function
	Internet Key	Launches Internet Explorer.
	E-Mail Key	Launches Outlook Express.
	User Key	Executes user-defined action.
	WLAN/Bluetooth On/Off Key	Turns WLAN/bluetooth on and off. (If you do not have WLAN/Bluetooth module installed, an additional User Key is provided instead.)

What is Bluetooth?

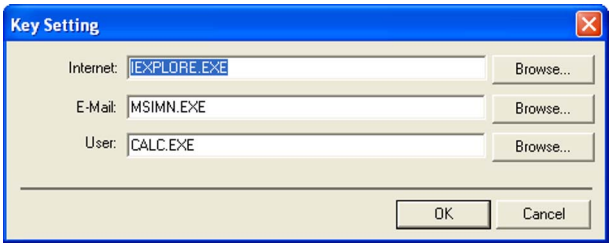
Bluetooth is a worldwide standard for the wireless exchange of data between two devices.

Using Wireless LAN/Bluetooth Key

Loading or unloading wireless LAN/Bluetooth driver takes about 5 seconds. Therefore, if you turn wireless LAN/Bluetooth on/off using the wireless LAN/ Bluetooth key, the button does not work in 5 seconds. (For wireless LAN/ Bluetooth installed models)

To reprogram a hot key

1. Double-click **Sens Keyboard** icon ( ) on the taskbar.
2. Select a key and click **Browse** to locate the program you wish to assign to the key.



3. Click on your program choice to select it. Click **Open**.
4. Click **OK**.

Reading the Status Indicators

Status indicators show the status of computer functions.

System Top

LED	Name	Function
	Num Lock	Changes a portion of the keyboard to a numeric keypad. See ”Using the Numeric Keypad” on page 9.
	Caps Lock	Changes all alphabet letter input into capital letters. No changes occur to numeric and special keys.
	Scroll Lock	Scroll lock in certain software.
	HDD Access	Blinking Green - HDD is being accessed.

System Bottom

LED	Name	Function
	Battery Status	Green - No battery pack installed/battery fully charged. Amber - Charging. Blinking - Bad Battery.
	Power	Green - System power on. Blinking - Standby mode.

Introducing Windows

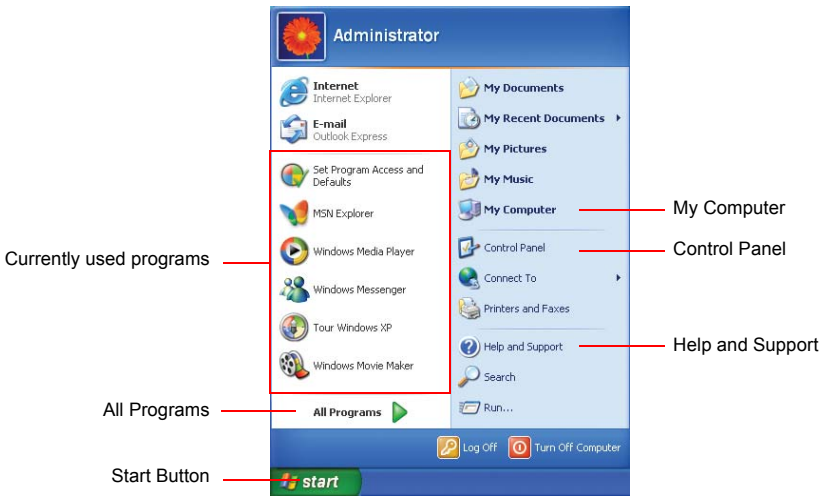
Understanding the Desktop

The desktop is the working area on the computer. It consists of the large workspace and a taskbar at the bottom.

Start Button		Opens the Start menu.
Taskbar		Displays programs that are currently running. Frequently used icons can be placed here.
Recycle Bin		Deleted files or folders end up here.
Language Bar		Switches text input language.

Understanding the Start Menu

The Start menu includes everything that is required to start Windows. From the Start menu it is possible to run a program, open a file, assign system users with Control Panel, receive support by clicking Help and Support, and search desired items from computer of Internet by clicking Search.

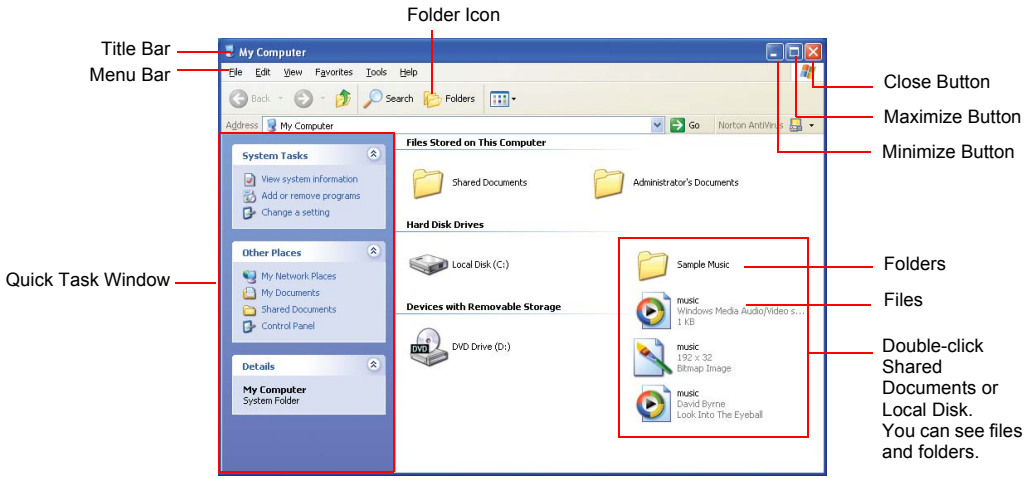


My Computer		Displays the contents of the hard disk, the CD-ROM drive, the network drive, and floppy disks. It can also be used to search and open files and folders.
Control Panel		Enables users to configure settings on the computer.
Help and Support		Provides on-line help, information on Windows and troubleshooting.
Search		Enables users to search for information in files or the Internet.
Run		Run programs or documents.

Understanding a Window

A window is the basic component in working with the computer. The My Computer window, which is a window for the computer's hard drive, will be used as an example here to show the basic composition of a window.

Click **Start > My Computer**.



Double-click the hard drive (local disk) to view internal folders and files stored in it. If the contents do not appear, click **Show the contents of this folder**.

What is a drive?
A storage device in which files and folders are saved in, and read from.

What is a folder?
A folder is used to group and manage files systematically, and may include files in sub-folders. It is similar to a bookshelf.

What is a file?
A file is a document or various kinds of material that is generated as a result of program operation. It is also called data.

To view the entire structure of the drive
Click the Folder icon in the taskbar to view the entire structure. Click again to return to the Quick Task Window.

Help and Support Center

Help and Support Center provides references and troubleshooting information regarding computer use.

Click **Start > Help and Support**.

Windows XP Tour

You can tour elementary functions provided by Windows XP.

Click **Start > Tour Windows XP**.

Or click **Start > All Programs > Accessories > Tour Windows XP**.

Click on the topics to find out about important functions of Windows XP.

Using the Computer

Using the CD Drive

You have one of following drives installed on your computer.

CD-ROM drive	Reads a CD.
CD-RW drive	Reads and writes a CD.
DVD-ROM drive	Reads a CD/DVD.
CD-RW/DVD-ROM Combo drive	Reads a CD/DVD and writes a CD.

To insert a CD

1. Press the eject button on right side of the CD drive.
2. When the tray slides out, place a CD onto the tray with the label facing up, and push the CD down until it clicks.

3. Push the tray in gently until it clicks.

To eject a CD

1. Stop any process that accesses the CD drive and ensure the CD access LED is turned off.
2. Press the eject button on right side of the CD drive.
3. When the tray slides out, remove the CD from the tray.
4. Push the tray in gently until it clicks.

If you remove the CD when the CD access LED is on, the disk and the data in it may be damaged.

Emergency Eject Hole
To eject a CD when the CD drive is not working or the computer is turned off, unfold a paper clip, and insert the unfolded end of the clip into the emergency eject hole and press until the CD tray opens.

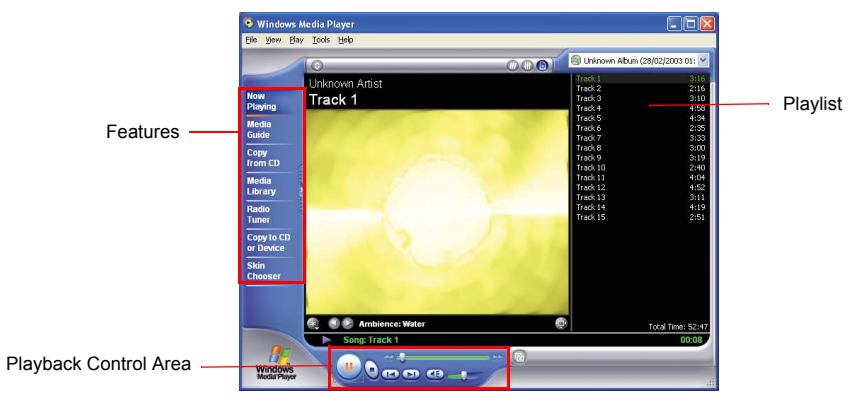
To clean a CD or DVD title
Clean the disc with a soft clean cloth by wiping from the center outwards.

To play a DVD
You have to install the DVD software provided on a separate CD to view a DVD title.

To use the Windows Media Player

The Windows Media Player allows you to play audio and video files from the computer or the Internet.

To launch the Windows Media Player, click **Start > All Programs > Accessories > Entertainment > Windows Media Player**.



Windows Media Player tour
For more information about using the Windows Media Player, run the Windows Media Player and click **Help > Help Topics > Windows Media Player tour**.

To play a video CD

If a video CD does not run automatically, follow these steps.

1. Insert a video CD into the CD drive.
2. When the CD drive window appears, double-click the MPEGAV folder.
3. Double-click the .dat file.
4. When the [Caution] dialog appears, click **Open With**.
5. Select "Select the program from a list" and click **OK**.
6. Select the **Windows Media Player**, and click **OK**. The video starts playing.

Above procedure applies only to the video CDs that has a .dat file as the execution file. Playing procedure may be different according to video CDs.

To control the volume

Using the keyboard:

Press **<Fn>+<Left Arrow>** or **<Fn>+<Right Arrow>** to adjust volume.

Using the volume control program:

Click the **Volume** icon ( ) on the taskbar, and adjust the slide bars.

Or, double-click the **Volume** icon ( ) on the taskbar, and adjust the settings in the [Master Volume] dialog.

To display the Volume icon on the taskbar
Click **Start > Control Panel > Sound, Speech, and Audio Devices > Sounds and Audio Devices**. On the **Volume** tab, select "Place volume icon in the taskbar" check box and click **OK**.

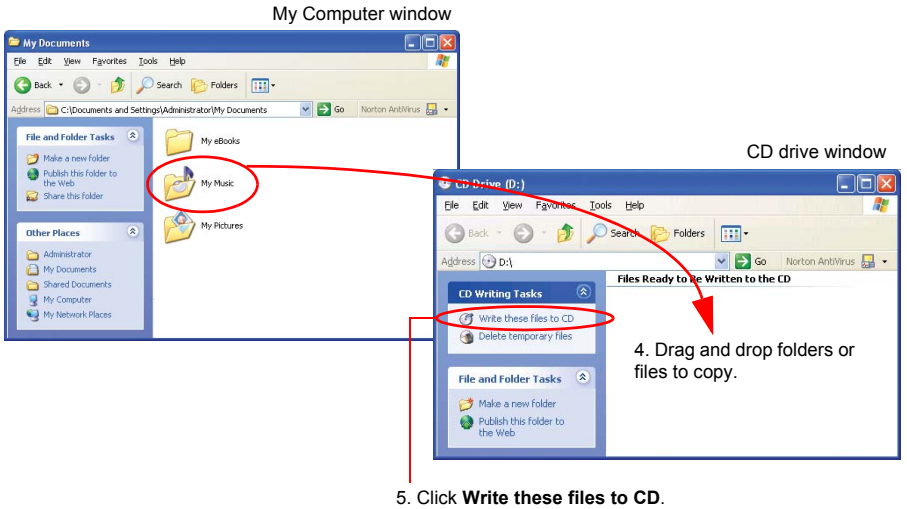
To write data on a CD (Option)

If your computer has writable CD drive, you can copy data to a blank CD or create an audio CD.

Additional CD writing program is supplied in an additional CD. For information about use, refer to the supplied manual.

You cannot write on a CD that already has data in it.

1. Insert a blank CD into the CD drive.
2. On the [CD Drive] dialog, select **Open Writable CD Folder** and click **OK**. The CD drive window appears.
3. Click **Start > My Computer**.
4. In My Computer window, select files and folders to copy, then drag and drop them onto the CD drive window.



5. Click **Write these files to CD** in the CD drive window.
6. When the CD Writing Wizard appears, enter the CD label, and click **Next**. The data begins copying.
7. When copying is completed, a message ‘completed’ appears and the CD drive window opens automatically.

For more information on writing CDs
Click **Start > Help and Support**. Type “CD copy” in the search field, and click the **Search** icon ( ).

To create an audio CD
Run the Windows Media Player program, click the **Help > Help Topics**. Click Using Windows Media Player > Using CDs > Creating your own CDs > To create your own CD.

Enjoying Home Theater (S/PDIF Port)

Your computer supports 5.1 channel output, which is a basic function for home theater systems, and DVD drives. It provides 3D surrounding sound and vivid screen.

What is a home theater system?
Home theater system usually consists of a TV, DVD, 5.1 channel speaker, and digital amp and provides a high-resolution screen (MPEG2) and 3D surrounding sound (Dolby 5.1 or DTS). With a home theater system, you can enjoy a vivid screen and sound in your home as if you are in a movie theater.

Following devices is required to enjoy a home theater system.

- 5.1 channel speakers including amplifier and connection cables (Purchased separately)
- DVD drive and program
- TV output port on your computer

When purchasing a 5.1 channel speaker, make sure it supports S/PDIF (optical) port.

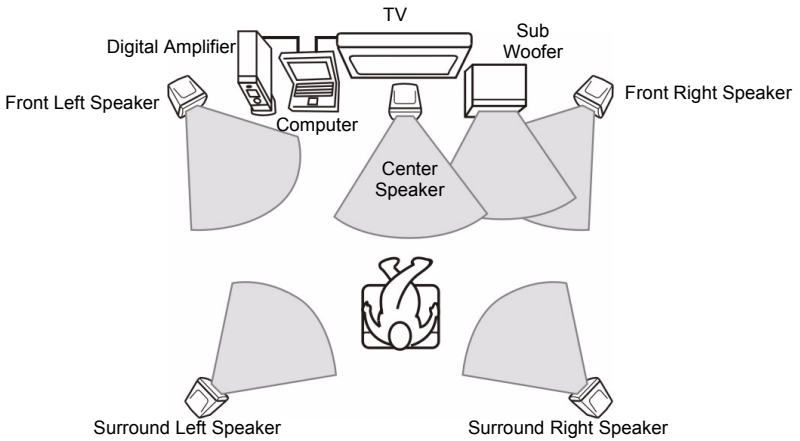
You need a CD/DVD that supports 5.1 channel to enjoy the 5.1 channel speaker system.

To use home theater system, complete the following procedures:

- Step 1. Connect digital amp and speakers to the computer.
- Step 2. Enable S/PDIF port on the computer.
- Step 3. Enable S/PDIF on the DVD program.

Step 1. Connect digital amp, speakers, and TV to the computer

1. Connect a digital amp to the S/PDIF port of your computer.
2. Connect speakers to the digital amp.



To watch through a TV
Connect the TV and change the setting in the Display Properties to TV. See “Using External Display Devices” on page 60.

Step 2. Enable S/PDIF port on the computer

Press **<Fn>+<F7 / S/PDIF>** to output the audio signal through the S/PDIF port. If you press these keys again, the output sound signal is cancelled.

The S/PDIF setting also can be changed in the Sound and Audio Device properties. (Click **Start > Control Panel > Sounds, speech, and Audio Devices > Sounds and Audio Devices**.)

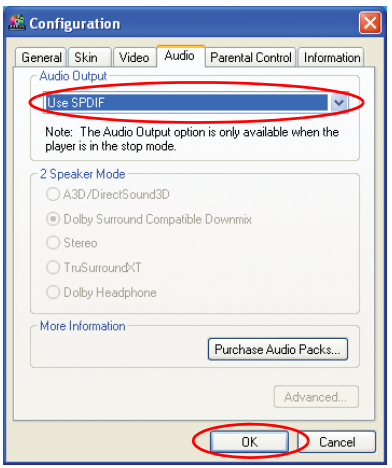
However, **<Fn>+<F7/SPDIF>** keys have priority.

Step 3. Enable S/PDIF on the DVD program

To use 5.1 channel speakers, you need to install the Power DVD program from the DVD Installation CD provided with your computer, then change the settings as following procedure.

1. Run Power DVD program and click the **Settings** icon ( ).

2. On the **Audio** tab, set the Audio Output setting to "Use SPDIF" and click **OK**.



Now, you can enjoy home theater using DVD titles.

To control volume for your 5.1 channel speaker, use the control on the digital amp. (Please refer to the speaker manual.)

Using the PCMCIA Card Slot

Various different functions can be added by inserting PCMCIA cards into the system. This system supports 16/32 bit, type I or II PCMCIA card types.

The PCMCIA card slot does not support a ZV card or a PCMCIA III card.

To insert a PCMCIA card

Before using the PCMCIA slot, remove the slot protector.
Push the eject button of the PCMCIA card slot once to pop it out. Push the button again to eject the slot protector.

1. Insert a PCMCIA card into the PCMCIA card slot on the side of the computer.

2. Windows automatically installs the necessary driver for the card. If there is no available driver found by Windows, you have to install the driver using a disk supplied with the card.

To remove a PCMCIA card

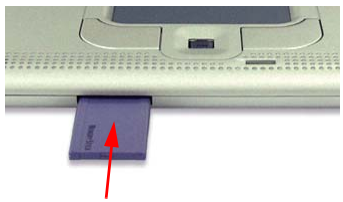
1. Double-click **Safely Removes Hardware** icon ( ) on the taskbar.
2. On the [Safely Remove Hardware] dialog, select the appropriate PCMCIA card and click **Stop**.
3. When [Stop a Hardware Device] dialog appears, click **OK**.
4. Click **Close** to close the [Safely Remove Hardware] dialog.
5. Push eject button of the PCMCIA card slot once, then the button pops out.
6. Push the button again to eject the PCMCIA card.

Using the Memory Stick Slot

In recent, Memory Stick is popular as a removable storage device like floppy diskette. It is widely used for many digital products like digital camera, PDA, etc. Users can easily install a memory stick to save and remove data in it.

Memory stick slot is optional when purchasing a computer. First decide the necessary capacity of storage for actual usage and then purchase separately the right amount of memory stick. Maximum 128MB is available until now, and MagicGate model is not supported.

1. Slightly slide a memory stick into the slot.



2. Click **Start > My Computer**, and double-click the Memory Stick icon ( ) to see the content.
3. To remove a memory stick, slightly push in the end of the memory stick. When the memory stick is ejected, pull it out.

To format a memory stick
Right-click the memory stick drive, and click **Format**. On the [Format] dialog, click **Start**.

To protect data in a memory stick
To prevent overwriting or deleting the data in the memory stick, move the slide lock to the "Lock" position.

To remove a memory stick in Windows 2000
Remove a memory stick after at least 20 seconds after finishing a task, such as formatting, copying or deleting.

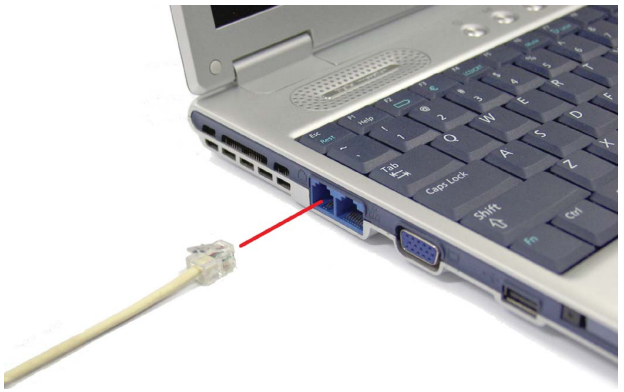
Connecting to the Internet

Connecting with a Modem

Before Start:

- Prepare a telephone line that is not digital.
- Contact an internet service provider (ISP) for instructions on how to connect to and disconnect from the Internet, and fees.

1. Connect a telephone line to the computer's modem port.

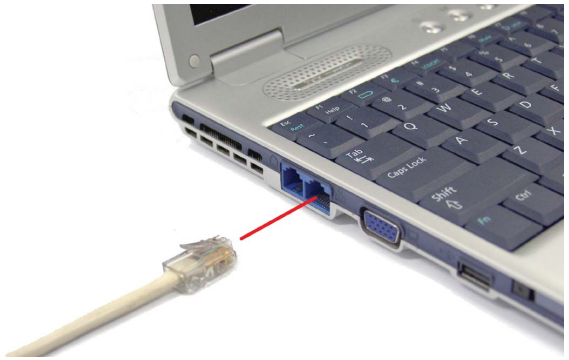


2. Connect to the Internet according to the instructions provided by your ISP.

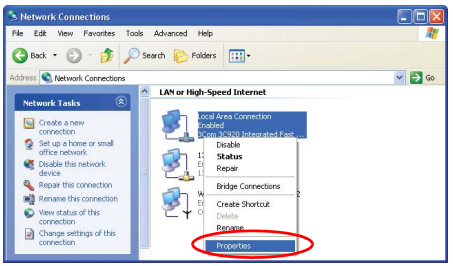
If the Internet connection is not disconnected properly, additional telephone charges may be imposed.

Connecting Through a Wired LAN

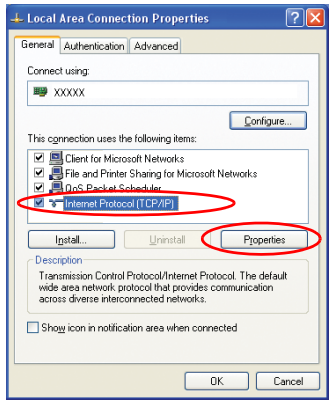
1. Connect a LAN cable to the computer's LAN port.



2. Click **Start > Control Panel**.
3. Click **Network and Internet Connections** in the [Control Panel] window.
4. Click **Network Connections** in the [Network and Internet Connections] window.
5. Right-click the **Local Area Connection** icon and click **Properties**.



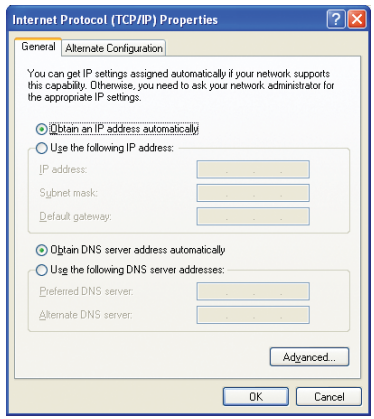
6. On the **General** tab, select “Internet Protocol(TCP/IP)” and click **Properties**.



7. **To use DHCP:**
On the **General** tab, select “Obtain an IP address automatically” and “Obtain DNS server address automatically”. Click **OK**.

To use a static IP:
On the **General** tab, select “Use the following IP address” and fill in the IP address, Subnet mask, Default gateway, Preferred DNS server, and Alternative DNS server fields. Click **OK**.

To use both DHCP and static IP simultaneously:
On the **Alternate Configuration** tab, click **User configured** and fill in the fields. Click **OK**.


Internet Protocol (TCP/IP) Properties
General
Alternate Configuration
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

Wake On LAN Function

<Wake On LAN> is a function that activates the system in rest mode when a signal (such as ping or magic packet commands) arrives from network(wired LAN).

To use <Wake On LAN> function:

1. Click **Start > My Computer > My Network Places > View network connections**.
2. Click the right button on the touchpad over **Local Area Connection**, and select **Properties**.
3. Click **Configure**, and select **Power Management** tab. Select 'Allow this device to bring the computer out of standby', then click **OK**. Restart the system.

If the system in rest mode is activated when there is no received signal, use the system after disabling <Wake On LAN> function.

Connecting wired LAN while using wireless LAN may not execute <Wake On LAN> function. Configure wireless LAN to 'Disable' to use <Wake On LAN> function.

Connecting Through a Wireless LAN (Option)

A wireless network (Wireless LAN) environment is a network environment that enables communication between multiple computers at home or a small-size office through wireless LAN devices.

Using the wireless network connections between the systems, you can use normal network functions such as sharing of files, folders and printers. Using computer-to-computer network (ad hoc) connections, you can access the Internet through a computer connected directly to the Internet even if your computer is not directly connected to the Internet. For details, see “Using Network Services” on page 46.

The information provided in this section only applies to models equipped with an optional wireless LAN device.

To turn off the Wireless LAN

If the wireless LAN is turned on, the computer consumes much energy, shortening the battery using time. Therefore, if you are not using the WLAN or if you are in an environment that does not provided WLAN, you are recommended to turn off the WLAN by pushing the WLAN/Bluetooth button (p14) on the computer.

Wireless network connections can be classified into two categories.

1) Access Point

You can connect to an AP to use the network. This is possible only in an environment equipped with an AP. For details, see “Connecting to an Access Point (AP)” on page 36.

What is an Access Point (AP)?

An AP is a network device that bridges wired and wireless LANs, and corresponds to a wireless hub in a wired network. You can connect multiple wireless LAN installed computers to an AP.

2) Computer-to-computer (ad hoc)

This is also called a peer-to-peer or ad hoc network.

In computer-to-computer wireless networks, you can wirelessly connect 2 or more computers that have wireless LAN modules. Using computer-to-computer wireless

networks, you can access the Internet through a computer that is connected to the Internet even if your computer is not directly connected to the Internet. For details, see “Connecting to computer-to-computer networks (peer-to-peer or ad hoc)” on page 37.

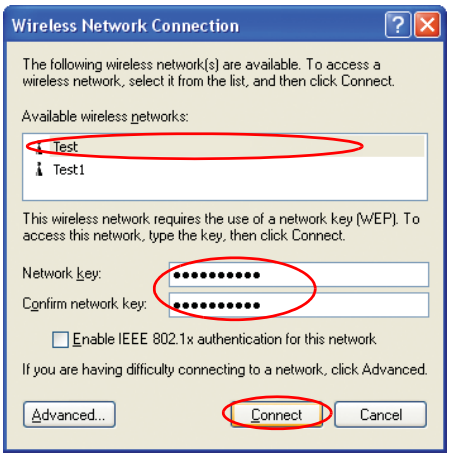
Connecting to an Access Point (AP)

This section describes how to connect to an AP. You can use the network when you are connected to an AP.

In this section, the configuration procedures are described for Windows XP installed computers. For information on the configuration procedures for other operating systems, see “Using Wireless Networks in Other Operating Systems” on page 42. Please ask your network administrator about detailed configuration information such as the network key (encryption key).

1. Right-click on the **Wireless Network Connection** ( ) icon on the taskbar, and select **View Available Wireless Networks**.

2. Select your desired AP (e.g. Test) to connect, and enter the encryption key for the AP in the Network key field, and click **Connect**.

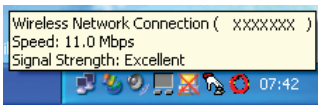

Wireless Network Connection
The following wireless network(s) are available. To access a wireless network, select it from the list, and then click Connect.
Available wireless networks:
Test
Test1
This wireless network requires the use of a network key (WEP). To access this network, type the key, then click Connect.
Network key:
Confirm network key:
Enable IEEE 802.1x authentication for this network
If you are having difficulty connecting to a network, click Advanced.
Advanced...
Connect
Cancel

If the network key is not configured for the desired AP, select 'Allow me to connect to the selected wireless network, even though it is not secure'.

Now you are connected to the AP, and you can access the network.

Checking the connection status

Move the mouse pointer over the Wireless Network Connection ( ) icon on the taskbar, and the connection status is displayed.



Connecting to computer-to-computer networks (peer-to-peer or ad hoc)

In computer-to-computer wireless networks, you can wirelessly connect 2 or more computers that have wireless LAN modules.

You can connect by completing the following steps:

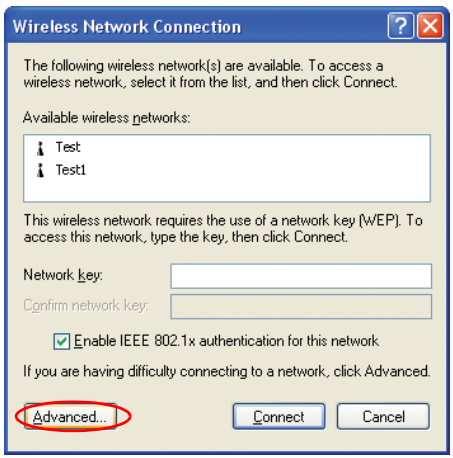
- Step 1. Set up a computer-to-computer network on a computer.
- Step 2. Connect to the configured computer from other computers.

In this section, the configuration procedures are described for Windows XP installed computers. For information on the configuration procedures for other operating systems, see “Using Wireless Networks in Other Operating Systems” on page 42.

Step 1. Setting up a computer-to-computer network

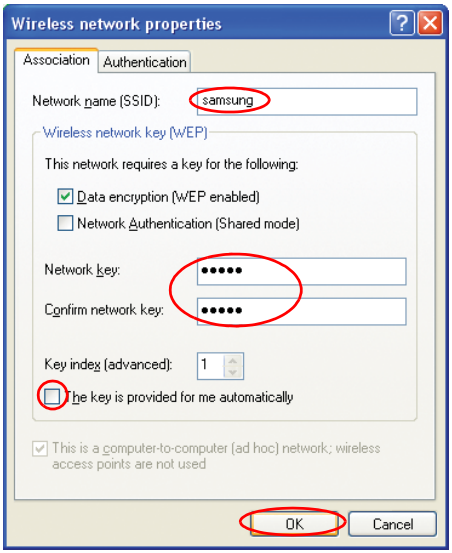
1. Right-click on the **Wireless Network Connection** ( ) icon on the taskbar, and select **View Available Wireless Networks**.

2. Click **Advanced**.


Wireless Network Connection
The following wireless network(s) are available. To access a wireless network, select it from the list, and then click Connect.
Available wireless networks:
Test
Test1
This wireless network requires the use of a network key (WEP). To access this network, type the key, then click Connect.
Network key:
Confirm network key:
Enable IEEE 802.1x authentication for this network
If you are having difficulty connecting to a network, click Advanced.
Advanced...
Connect
Cancel

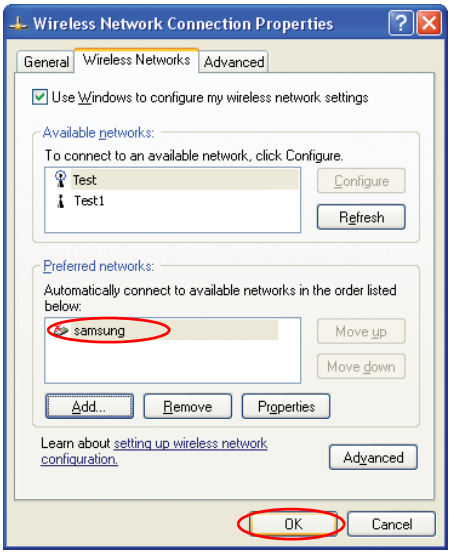
3. On the **Wireless Network** tab, click **Advanced**.
4. Clear 'Automatically connect to non-default network' check box, if it is selected. Select 'Computer-to-computer (ad hoc) networks only', and click **Close**.
5. In the **Wireless Networks** tab, click **Add**.

6. Enter the network name (e.g. samsung), and unselect 'The key is provided for me automatically'. Enter the encryption key in the Network key field, and click **OK**.



To prevent a network connection from an unauthorized user, it would be better to configure a network key (encryption key). A network key consists of 5 or 13 alphanumeric characters (e.g. magic), or of 10 or 26 hexadecimal numbers (a hexadecimal number is represented by numbers '0' to '9' or letters 'a' to 'f').

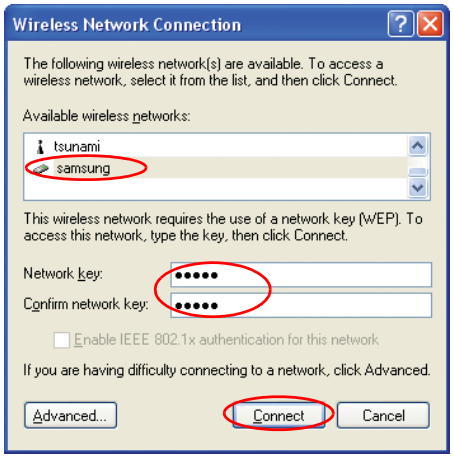
7. Check that the configured network name (e.g. samsung) is in the ’Preferred networks’ item, and click **OK**.



Now your wireless network setup has been completed.

Step 2. Connecting to the configured computer

1. Right-click on the **Wireless Network Connection** ( ) icon on the taskbar, and select **View Available Wireless Networks**.
2. Select the wireless network name (e.g. samsung) specified in ”Connecting to computer-to-computer networks (peer-to-peer or ad hoc)” on page 37, enter the encryption key in the Network key field, and then click **Connect**.

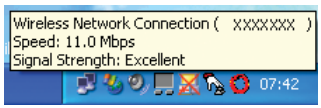

Wireless Network Connection
The following wireless network(s) are available. To access a wireless network, select it from the list, and then click Connect.
Available wireless networks:
tsunami
samsung
This wireless network requires the use of a network key (WEP). To access this network, type the key, then click Connect.
Network key:
Confirm network key:
Enable IEEE 802.1x authentication for this network
If you are having difficulty connecting to a network, click Advanced.
Advanced...
Connect
Cancel

If the network key is not configured in ”Connecting to computer-to-computer networks (peer-to-peer or ad hoc)” on page 37, select 'Allow me to connect to the selected wireless network, even though it is not secure'.

The two computers are connected and are able to communicate with each other. When the computers are connected, the 'Wireless Network Connection' message is displayed for a short time over the Wireless Network Connection icon of the two computers.

Checking the connection status

Move the mouse pointer over the Wireless Network Connection ( ) icon on the taskbar, and the connection status is displayed.



Using Wireless Networks in Other Operating Systems

In a operating system other than Windows XP, you have to install additional wireless LAN configuration program, and configure wireless network settings.

To use wireless network connection, complete the following procedures.

- Step1. Install the wireless LAN configuration program (PROSet).
- Step2. Configure wireless network settings through the wireless LAN configuration program.

Step 1. Installing the wireless LAN configuration program (PROSet)

You can install the wireless LAN client administrator program following the instruction displayed automatically when you insert the system software CD. Insert the system software CD into the CD-ROM drive, and install the wireless LAN configuration program.

To not display 'Intel Configuration Service' window afterward
After installing the wireless LAN configuration program, select "Do not show this again." check box, then click **Close**.

Step 2. Using the wireless LAN configuration program (PROSet)

Double-click the **wireless LAN program** ( ) icon on the taskbar.
(Or, click **Start > All Programs > Intel Network Adapters > Intel(R) PROSet**.)

In some languages, some buttons on the window may not be displayed. Resize the window to use the program.

Configure wireless network settings in PROSet following the procedures below.

To connect to an Access Point:

To connect to an access point or existing computer-to-computer (Ad Hoc) network, refer to the following procedures. (To create a new computer-to-computer network, refer to the following "To create computer-to-computer (Ad Hoc) network" section.)

1. Click **Scan** in the **Networks** tab.
2. Select the name of desired access point or computer-to-computer network to connect from the searched available networks list, and click **Connect**.

If your desired network does not appear, click **Refresh**.

An access point is represented by ( ) icon, and a computer-to-computer network is represented by ( ) icon. An ( ) icon is displayed in front of an access point or a computer-to-computer network with configured security settings.

3. Select "Yes, create a profile for this Network.", and click **OK**.
4. Enter **Profile Name** and click **Next**.
5. Enter the **network authentication**, **data encryption (WEP)**, **key index**, and **password** configured for the target access point or computer-to-computer network in the Security Settings window, and click **Finish**.

The network authentication, data encryption (WEP), key index, and password of a access point are configured in the access point management program. For the information on the security information, check the security settings of the access point or ask your wireless network administrator.

To connect to an existing computer-to-computer (Ad Hoc) network, enter the password configured when creating the computer-to-computer network for the first time. You do not need to enter network authentication and key index.

Security Settings
- **Network authentication**: Network authentication has two options of Open System and Shared Key. If you select Open, no authentication procedure is used. If you select Shared, WEP key is used as authentication procedure. Default option setting is Open.

- **Data encryption (WEP)**: IEEE 802.11 WEP (Wired Equivalent Privacy) standard has two security levels of 64-bit key (40-bit key for some cases) and 128-bit key.

- **Key index**: Select the current encryption key index used by the access point out of 1 to 4.

- **To use pass phrase**: Click **Use pass phrase** to activate, and enter 5 (for 64-bit) or 13 (for 128-bit) alphanumeric characters (represented by 0-9, a-z, or A-Z).

- **To use WEP key**: Click **Use WEP keys** to activate, and enter a hexadecimal number (represented by 0-9 and A-F) of 10 (for 64-bit) or 26 (for 128-bit) digits in the WEP key field.

When a wireless connection to an access point is established, connection icon ( ) appears in front of the name of connected profile.

To create a computer-to-computer (Ad Hoc) network:

To create a new computer-to-computer (Ad Hoc) network or to connect to a hidden access point (Stealth/Closed Mode), refer to the following procedures.

A hidden access point is an access point that exists, but is configured not to be detected by the scan operation to prevent access attempts from unauthorized users.

1. Click **Add** in the **Networks** tab.
2. Enter **Profile Name** and **Network name (SSID)**, select **Operating Mode**, then click **Next**.

What is a network name (SSID)?
Network name (SSID) is a name that a wireless adapter uses for identifying connection. Enter the name of computer-to-computer network to create (e.g., P2P) or the name of access point to connect. The network name identifies cases. (capital and lowercase) For the name of access point, check the settings of the access point, or ask your wireless network administrator.

Operating Mode:
- **Infrastructure - Connect to an Access Point** - Select to connect to an access point.

- **Ad hoc - Connect directly to other computers** - Select to create a computer-to-computer (Ad Hoc) network.

3. Configure password setting to be used for computer-to-computer network connection in the Security Settings window.
   To connect to an access point, enter the **network authentication**, **data encryption (WEP)**, **key index**, and **password** configured in the access point.

It is recommended to configure data encryption for security purposes when creating a computer-to-computer network connection profile. For more information on security settings refer to the security settings in Connecting to AP or Help.

When you are creating a computer-to-computer network connection profile, the network authentication setting is disabled.

4. When a profile creation is completed, the new created profile appears in the profiles list in the **Networks** tab. Select corresponding profile, and click **Connect** to connect to the created profile.

   When a wireless connection to the created profile is established, connection icon ( ) appears in front of the name of connected profile.

Using Network Services

While the computer is connected to the network, you can use network services to share files, folders, and printers. Using computer-to-computer wireless networks, you can access the Internet through a computer that is connected to the Internet even if your computer is not directly connected to the Internet.

Network services are provided for the computers that are connected to the network through wired or wireless network connections. For details, see “Connecting Through a Wired LAN” on page 32 and see “Connecting Through a Wireless LAN (Option)” on page 35.

Sharing files or folders

This section describes how to share files and folders between computers connected to the network.

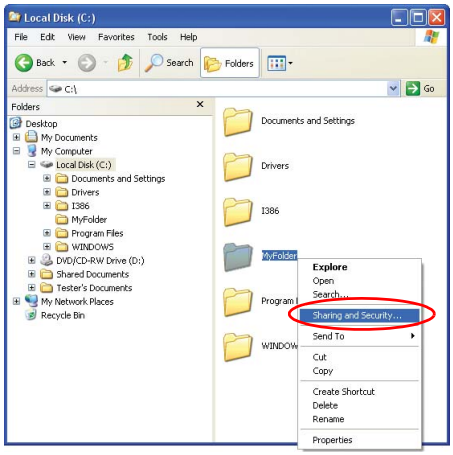
To share files, complete the following procedures:

- Step 1. Configuring the sharing of files and folders on a computer.
- Step 2. Accessing shared files and folders from another computer.

When a file or folder is shared, anyone connected to the network can open and delete the shared file or folder.
Configure a file sharing network only when the network is secure, and do not share important data.

Step 1. Configuring Sharing

1. Right-click the target file or folder to share in My Computer, and select **Sharing and Security**.



2. Click 'IF you understand the security risks but want to share files without running the wizard, click here'.

It has the same security effect as that of the 'Network Setup Wizard'. This screen does not appear if Internet Sharing Network Wizard has been installed in the computer-to-computer wireless network environment.

3. Select 'Just enable file sharing', and click **OK**.
4. In the 'Network sharing and security' field, select 'Share this folder on the network', enter the share name, and click **OK**.

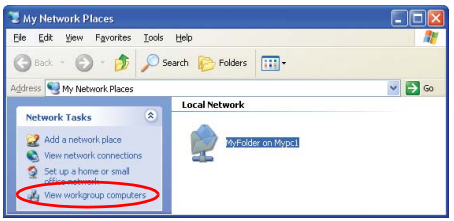
Be cautious when selecting 'Allow network users to change my files' since other network users can change the files in the shared folder.

The file and folder sharing configuration has been completed.

Step 2. Using Shared Files or Folders

This section describes how to access shared files or folders if your computer is a member of the same workgroup.

1. Click **Start > My Computer**. Under Other Places, click **My Network Places** in your computer.
2. Click '**View workgroup computers**', and click the desired computer to access the shared file.



If your computer is a member of another workgroup:

1. Click Other Places > Microsoft Windows Network.
2. Click the desired workgroup.
3. Click the desired computer to display the shared files or folders.

Sharing Printers

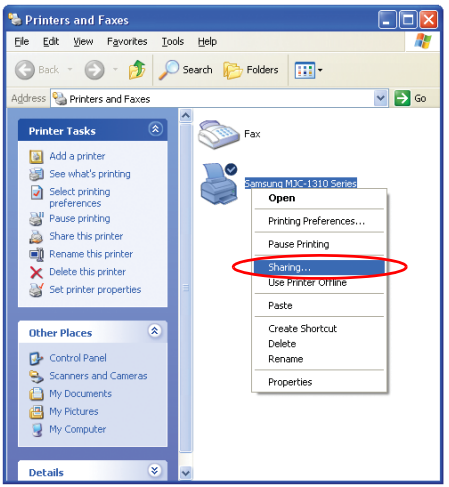
This section describes how to share a printer between computers connected to a network.

To share a printer, complete the following procedures:

- Step 1. Configure printer sharing in the computer connected to the printer.
- Step 2. Add and use the shared printer in other computers on the network.

Step 1. Configuring Printer Sharing

1. From the computer connected to the printer, click **Start > Printers and Faxes**.
2. Right-click the printer you want to share, and click **Sharing**.

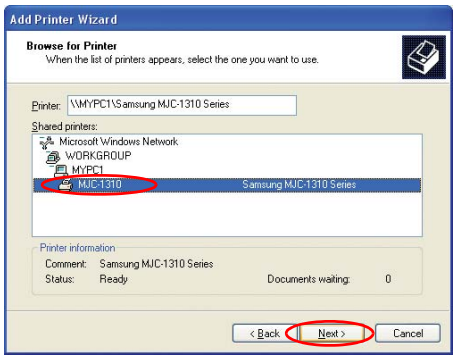


3. Select 'Share this printer', enter a share name for the shared printer, and click **OK**.
4. In the Printers and Faxes window, you will find the printer icon has been changed to another icon on a hand.

Step 2. Adding and Using a Shared Printer.

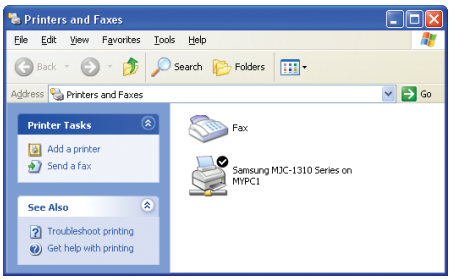
1. From a different computer that wants to use the shared printer, click **Start > Printers and Faxes**.
2. Click **Add a printer**.
3. In the Add Printer Wizard, click **Next**.
4. Select 'A network printer, or a printer attached to another computer', and click **Next**.

5. Select 'Browse for a printer', and click **Next**.
6. Select the workgroup or computer, select the desired printer, and click **Next**.



If you cannot find the desired printer, try again after a while.

7. Read the warning about a shared printer, and click **Yes** to install the shared printer.
8. Select **Yes** for 'Do you want to use this printer as a default printer?', and click **Next**.
9. Click **Finish**.
10. When the printer sharing configuration has been completed, the shared printer appears in the Printers and Faxes window.



Now you can print using the shared printer even if your computer is not directly connected to a printer.

Sharing an Internet Connection

Using computer-to-computer (peer-to-peer) network connections, you can access the Internet through a computer connected to the Internet even if your computer is not directly connected to the Internet.

To share an Internet connection, the computers should be connected to a computer-to-computer (peer-to-peer) wireless network. For details, see “Connecting to computer-to-computer networks (peer-to-peer or ad hoc)” on page 37.
Also, one of the computers has to be connected to the Internet (external network).
The configuration procedure to share an Internet connection are described for Windows XP installed computers.

To share an Internet connection, complete the following procedures:

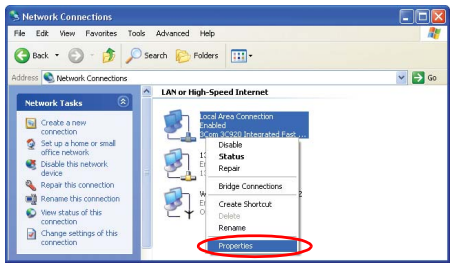
- Step 1. Configuring a Internet connection sharing from the computer connected to the Internet.
- Step 2. After completing the shared Internet connection configuration, check that the other computers can access the Internet through the shared Internet connection.

Step 1. Configuring Internet Sharing.

Configuring a shared Internet connection on the computer connected to the Internet.

1. Click **Start > Control Panel > Network and Internet Connections > Network Connections**.
2. Right-click on the device connected to the Internet, the external network, and select Properties.

If the computer is connected to the Internet through a wired LAN, select 'Local Area Connection'.



3. On the **Advanced** tab, select 'Allow other network users to connect through this computer's Internet connection', and click **OK**.

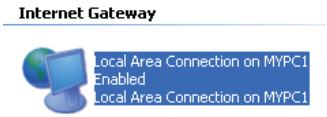
Step 2. Checking the Shared Internet Connection.

When the Internet connection sharing configuration has been completed, the network icon in the Network Connections window is displayed as follows:

Click **Start > Control Panel > Network and Internet Connections > Network Connections**.

– A computer connected to the Internet.

– A computer sharing the remote Internet connection (other computer).



If the icon does not appear after a long time, restart the computer.

Computers on the network can access the Internet through the shared Internet connection only when the computer connected to the Internet is turned on.

Customizing Your Computer

Using System Setup

The System Setup (BIOS) program enables you to configure your computer hardware and set security and power-savings options. The settings you choose are stored in battery-maintained CMOS memory that saves the information even when the computer's power is turned off. When your computer is turned back on, it is configured with the values found in this memory.

Run System Setup if you get a message prompting you to run the program. You may also want to run System Setup, particularly the first time you use your computer, to set the time and date, use security or power-management features, or alter the settings of other features.

BIOS Caution:
If you are not familiar with BIOS setup and what the parameters mean, seek help from a person who is knowledgeable. Incorrect settings may cause your system to "Crash".

Your computer's version of System Setup may not include all the fields listed here or may include additional fields. Field names and order of appearance can vary according to the version of the BIOS (basic input/output system) on your computer.

Starting System Setup

To start System Setup, turn on your computer and then press **<F2>** and hold until the System Setup screen appears.

Table 3. System Setup Menus

Menu	Function
Main	Changes the basic system.
Advanced	Configures advanced features on your computer.
Security	Enables security features, including passwords.
Boot	Specifies the order of boot devices and configures boot features.
Exit	Specifies how to exit System Setup.

To open the menu you need to use, use the left or right arrow keys to select the menu name.

Table 4. System Setup Navigation Keys

Navigation Key	Function
<F1>	Displays the General Help window.
<Esc>	Exits the current menu.
<Up Arrow> or <Down Arrow>	Moves the cursor up and down between fields.
<Left Arrow> or <Right Arrow>	Selects different menus. Pressing the <**Esc>**key at the Main menu brings you to the Exit menu.
<F5>	Scrolls backwards through the options for the highlighted field.
<F6>	Scrolls forward through the options for the highlighted field.
<F9>	Sets the parameters for the current menu to their default values.
<F10>	Save changes and exit system setup.
<Enter>	Executes commands or opens a submenu.

Changing Booting Priority

The Boot menu in System Setup enables you to select the booting device and to set booting options.

Boot Device Priority field enables:
You to select the order in which the computer attempts to boot from different devices. The field has four (4) options: **CD-ROM Drive, Removable Devices, Hard Drive and MBA UNDI (Bus2 Slot5).**

To change the booting device priority, choose the device positions by completing the following:

1. At startup, press **<F2>** to open **System Setup**.
2. Use **<Right Arrow>** to select the **Boot** menu.
3. Press <**Enter**> to enter **Boot Options**.
4. Highlight the 1st Boot Device option with **<Up Arrow>** or **<Down Arrow>** keys.
5. Press **<F6>** key until the option moves up in the list to the desired position **or** press **<F5>** key until the option moves down in the list to the desired position.
6. Press **<F10>** to exit and save your changes.
7. Press **<Enter>** again to restart the computer.

Configuring the Password

Setting the Supervisor Password

By configuring a supervisor password, you can restrict system access to authorized users only.

1. Select the Security menu in the System Setup. To enter System Setup, see “Starting System Setup” on page 54.
2. On the **Set Supervisor Password** item, press **<Enter>**.
3. Enter a password, press **<Enter>**, re-enter the password for confirmation, and press **<Enter>** again.
4. When a message confirming the password configuration appears in the [Setup Notice] window, press **<Enter>**.

Setting the User Password

You can configure user passwords so that other users can use the system.

Before configuring a user password, a supervisor password must have been configured.
Users can start the system with their user password, but cannot enter into the System Setup.
Deactivating the supervisor password also deactivates the user password.

On the **Set User Password** item, press **<Enter>**, and complete step 3-4 of "Setting the Supervisor Password".

Activating the Booting Password

Before activating the booting password, the supervisor password must have been configured.

Set the **Password on boot** option to [Enabled].

From now on, system booting will not proceed without the password.

Activating the Hard Disk Drive Password

Activating the hard disk drive password prevents the currently installed hard disk drive from being used in other systems.

Before activating the hard disk drive password, the supervisor password must have been configured.

On the **Set HDD 0 Password** item, press **<Enter>**, and complete step 3-4 of "Setting the Supervisor Password".

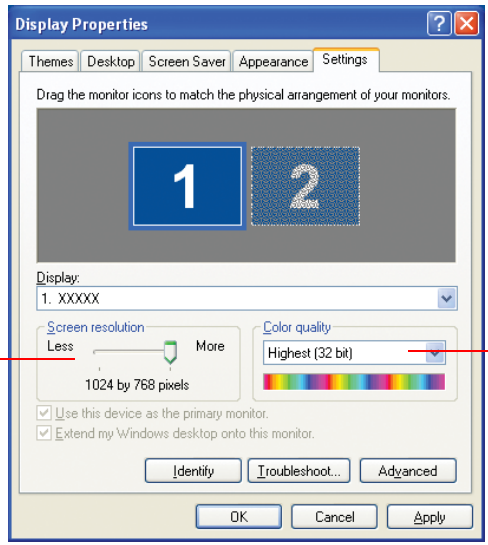
Deactivating the Password

1. On the password to delete, press **<Enter>**. (e.g. supervisor password)
2. Enter the current configured password, and press **<Enter>**.
3. Leave the 'Enter New Password' and 'Confirm New Password' field empty, and press **<Enter>** to deactivate the password.

Configuring Resolution and Color Depth

Screen resolution is the number of pixels displayed on the screen. High resolution makes the overall screen area large, although individual items appear small. Color quality is determined by the number of bits used to represent a pixel on the screen. High color quality displays more number of colors on your screen.

1. Select **Start > Control Panel > Appearance and Themes > Change the screen resolution**.
2. Make changes on the **Settings** tab of the [Display Properties] dialog.



To change your screen resolution, move the slider to select an appropriate resolution.

To change the number of colors displayed on a monitor, select an appropriate color quality.

3. When you have completed configuration, click **Apply**.

It is recommended setting the resolution to 1024x768, and the number of colors to Highest (32bit).

Adjusting the Screen Brightness

There are 8 levels of LCD screen brightness (1:Dimmest~8:Brightest).

You can adjust the screen brightness by pressing **<Fn>+<Up Arrow>** or **<Fn>+<Down Arrow>** on the keyboard, and the changed screen brightness is displayed on the upper left corner of the screen. The changed brightness setting is maintained after restarting the computer.

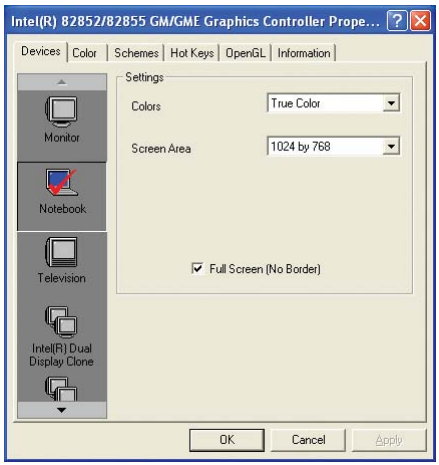
Whenever you change the power source, to the AC adapter or the battery, the screen brightness is changed to the default setting as follows.
- When changed to the AC adapter: Level 6
- When changed to the battery: Level 4

Using External Display Devices

Using external display devices such as monitor, projector, TV, etc you can view the screen images alternatively or simultaneously. You can extend the screen into two display devices to use larger workspace.

Using external display devices would be especially useful when you are giving presentation or watching a movie through your TV.

1. Connect a monitor or a projector to the monitor port of the system. To connect a TV, connect the TV to the monitor port or TV output port of the system.
2. Right-click on the desktop, and select **Graphics Options > Graphics Properties**.
3. On the **Devices** tab, select your desired display device, and click **OK**. (The displayed device list is determined by the currently connected devices.)



Monitor	Displays on an external device such as monitor, projector or TV (connected to the monitor port) only.
Notebook	Displays on the notebook LCD only.
Television	Displays on the TV (connected to the TV output port) only.
Intel(R) Dual Display Clone	Displays the same screen on the notebook LCD, and an external device such as monitor, projector, or TV.
Extended Desktop	Extends the screen into the notebook LCD and an external device such as monitor, projector, or TV to use 2 times larger workspace.

To switch display devices using shortcut key

You can switch display devices easily by pressing **<Fn>+<F4 / LCD/CRT>** shortcut key.

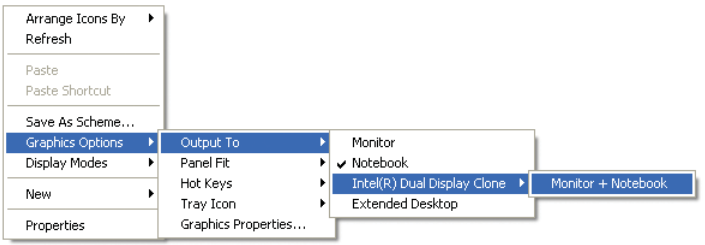
Provided that CRT monitor is connected, the display order will be LCD > CRT > LCD+CRT whenever the **<Fn>+<F4 / LCD/CRT>** key is pressed.

Provided that multiple external display devices are connected, the display order will be LCD > CRT > LCD+CRT > TV > LCD+TV > CRT+TV > LCD+CRT+TV whenever the **<Fn>+<F4 / LCD/CRT**> key is pressed.

You cannot use the **<Fn>+<F4 / LCD/CRT>** shortcut key in the full screen mode DOS prompt.

To change display devices easily

Right-click on the desktop, and select Graphics Options > Output To to change the current display device easily.



To change the screen resolution and color quality

If the screen does not appear clearly, please try to change the screen resolution and color quality. In the figure 3, select a device, and configure the color, screen area, and refresh rate.

System Management

Using Power Management Options

Your computer includes **Power Management** options that can help the battery charge last longer and extend the life of the battery. Power-management options will slow down or shut off system components when the components are not being used.

Power management may slow down system performance. Your computer runs fastest with the power cord attached, when power management is disabled.

In the next sections, basic and advanced methods of power management will be discussed.

Basic Power Management Schemes

This section discusses the basic schemes of power management when the computer is operating on battery power or using AC power.

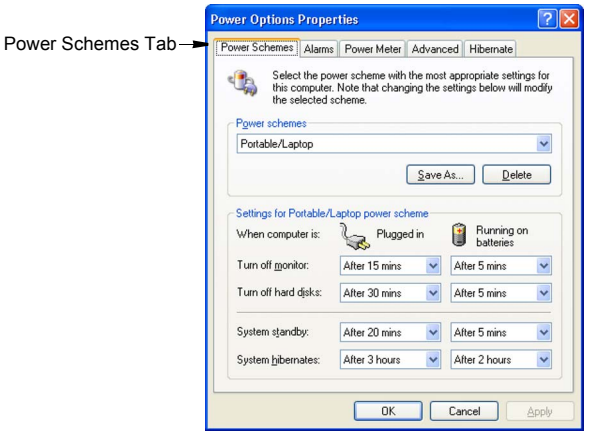
Standby vs. Hibernation
Hibernation is a state where the contents of memory are stored in a special file on the hard disk, and Standby simply keeps a small holding current through the memory to keep the data. You are more likely to sustain loss of data in Standby mode so it is recommended to save all open files before entering Standby.

Changing Devices:
Do not change PC Cards while in standby or hibernate modes.

To enter the power management window complete the following:

1. Click **Start** > **Control Panel** > **Performance and Maintenance**.
2. Click icon to display the **Power Options Properties** window.

3. Click the **Power Schemes** tab to display the basic power management options.



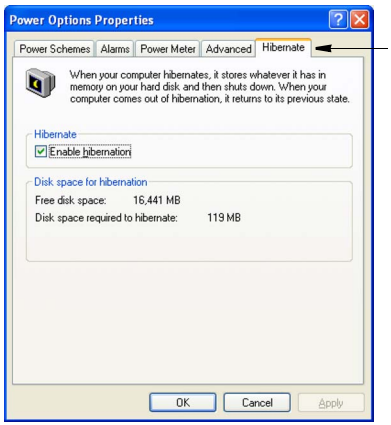
4. Select the time that you wish each of the following actions to occur in **Battery** and **AC power** mode.
   - Turn off monitor
   - Turn off hard disks
   - System standby
   - System hibernates

Turning off the monitor and HDDs will save a substantial battery power, therefore when in battery only mode select the shortest time practical.

❁ **Hibernate Mode** (*Power Management or Manual Method*)

When hibernation is used, your computer turns off and when you power up again, everything is restored exactly as you left it—including programs and documents you may not have saved or closed. Everything in memory gets saved to the HDD, and the monitor and hard disk get turned off.

If You Reinstall Windows:
You should re-establish hibernate in power options by opening **Power Options Properties** window and click on the **Hibernate** tab then click "Enable Hibernation".


Power Options Properties
Power Schemes
Alarms
Power Meter
Advanced
Hibernate
Hibernate Tab
When your computer hibernates, it stores whatever it has in memory on your hard disk and then shuts down. When your computer comes out of hibernation, it returns to its previous state.
Hibernate
Enable hibernation
Disk space for hibernation
Free disk space: 16,441 MB
Disk space required to hibernate: 119 MB
OK
Cancel
Apply

Frequent Interruptions:
If you experience frequent interruptions, you might also consider putting your computer into automatic hibernation after a specified number of minutes using the power management options.

❁ **Standby Mode** (*Power Management or Manual Method*)

Standby is used mainly for conserving battery power in your notebook computer. It also gives you the benefit of getting right back to your work without waiting for the computer to restart. Standby turns off your monitor and hard disks, placing your entire system in a low-power state. When you return to your computer, restores your desktop exactly as you left it. It is recommended that you do not enter standby mode with less than 20% battery power.

5. Click **OK** to set your power management options and close the window.

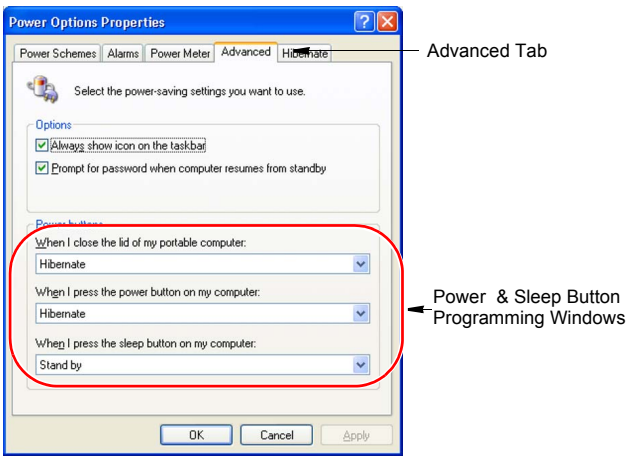
Rest Key:
The manual **<Fn+Esc>** key combination will not activate Standby or Hibernate modes while you are playing a multimedia program or have an active USB device connected.

Advanced Power Management Schemes

This section discusses the advanced power management schemes. There are two buttons that you can use to manually conserve power.

To enter the power management window complete the following:

1. Click **Start** > **Control Panel** > **Performance and Maintenance**.
2. Click icon to display the **Power Options Properties** window.
3. Click the **Advanced** tab to display the advanced power management options.



4. Select the mode (**Do nothing/Ask me what to do/Standby/Hibernate/Shut down**) assigned to the Power button and/or Rest <Esc> key. Also select the action (**Do nothing/Standby/Hibernate**) associated with closing the computer lid.

The “Rest” key is assigned to the **<Fn+Esc>** key combination. See ”Basic Power Management Schemes” on page 62 for a better understanding of Standby and Hibernate modes.

5. Click **OK** to set your power management options and close the window.

You can return to normal operation after you have used one of the “Power Management” buttons by quickly pushing and releasing the **Power** button.

Using the Battery

Your computer uses a smart rechargeable Lithium-ion (Li-ion) battery pack for power when the AC adapter is not attached to an electrical outlet. The smart battery gives a accurate measurement of the current battery capacity which helps extend operating time by enabling effective power management in operating systems that take advantage of the accurate information supplied by the battery.

Charging the Battery

Your computer's battery starts charging automatically when you connect the power to the computer and to an electrical outlet.

Approximate charging time for the Li-Ion battery is 2 hours. While the battery is charging normally, the battery charge light on the computer is amber. When the battery is fully charged, the light changes to green.

When you use a new battery pack for the first time or use a battery after a long period of storage, the initial battery life is shorter than normal. Normal battery life resumes after a few discharge-recharge cycles.

Follow these rules for charging your battery:

- A battery normally discharges power when not used for long periods of time. Be sure to recharge the battery every two months when it is not in use.
- Make it a practice to discharge your battery fully before recharging the battery. This can help extend the life of the battery.
- Do not attempt to charge the battery in temperatures of under 5°C or over 45°C

All batteries eventually wear out and lose the ability to hold a charge. You may need to replace your battery pack after a year of average usage.

Battery charging time may differ depending on system environment or using condition.

Safely Using the Battery

Follow these guidelines to safely use the battery:

- Turn off your computer and unplug it if you accidentally:
  - Expose the equipment to liquid.
  - Drop, jar, or damage the computer.
- Use only approved battery chargers.
- Do not disassemble the battery, heat it above 100°C, or burn it. The battery used in this computer may cause a fire or chemical burn if mistreated.
- Your computer's rechargeable battery may be considered hazardous waste. If you replace your battery with a new one:
  - Keep the old battery out of the reach of children.
  - Dispose of the old battery promptly.
  - Make sure that you follow all local requirements when you dispose of the old battery.

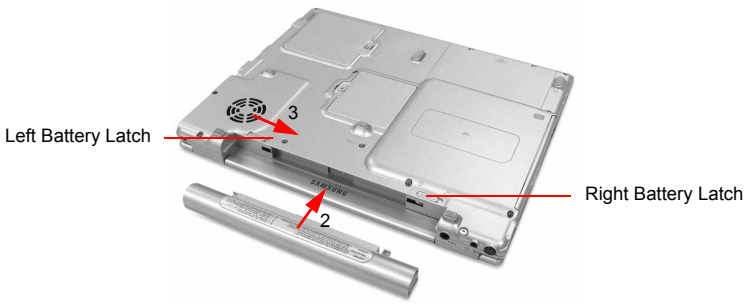
Installing the Battery

To install the battery pack:

1. With the computer’s power off, close the LCD panel and turn the computer over so the bottom of the unit faces up.

Insert the battery into the battery compartment, ensuring the correct orientation so that the battery fits in its compartment properly.

2. Insert the battery into the battery compartment until the battery latch snaps into place.



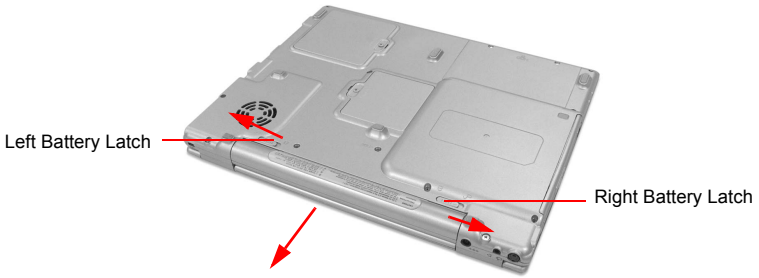
3. Slide the left battery latch toward center to lock the battery in place.

Removing the Battery

Your computer comes with the battery pack inserted in the computer.

To remove the battery from the computer:

1. Turn the computer's power off.
2. Close the LCD panel, and turn the computer over so that the bottom of the unit faces up.
3. Slide the left battery latch outward.
4. While holding the right battery latch outward, slide the battery out of the battery compartment.



Monitoring the Battery Charge

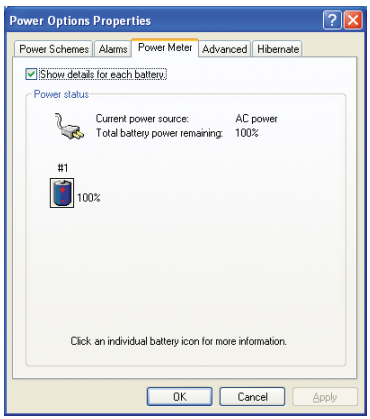
Battery life is affected by factors such as the power-management settings in System Setup, the applications you use, and the brightness settings of the LCD. Under normal usage, the battery charge lasts approximately 2 hours.

Battery life estimates are subject to variation. The actual life of your battery may be less than the estimates given in the manual.

You can monitor the charge of the battery pack installed in your computer by using the Power Meter or Battery Gauge.

Power Meter

The Power Meter displays the charge of the batteries and the current source of computer power, AC or batteries. You may monitor the battery charge or usage by using the “Power Meter”. To access the power meter click icon on the taskbar or click **Start** > **Control Panel** > **Performance and Maintenance** > **Power Options** > **Power Meter** tab.



The Power Status icons shown below are displayed during Battery Charging Operations.

At ~15% and 10% remaining battery power the current power source and the battery icons respectively change to the icon shown below and you should follow the instructions in “Battery Warnings” section below.

Battery Gauge

You may display the battery gauge while you are in any program by pressing **<Fn+F2>**. The battery gauge is only displayed for a few seconds.

When using this function, the LCD display may not operate properly.

Power Source:

Indicates that the computer is powered by the AC adapter.

Indicates that the computer is powered by the battery.

Battery Level:

Indicates the approximate amount of the primary battery charge remaining.

You may also determine the charge of your battery by simply pushing the symbol below the word **PUSH** located on the side of the battery. The green LEDs will illuminate to show you the percentage of charge remaining in the battery.

Battery Warnings

If the battery charge is low (about 10%) you have ~ 5–10 minutes of battery life left. **You should:**

- Save your work and,
- Connect the power cord to the computer or turn off the computer and install a fully charged battery.

You can adjust the battery alarm features by using the operating systems power management program (**Start** > **Control Panel** > **Power Options** in Windows).

If you cannot run your computer from the battery and the battery will not charge when you attach the power cord, **the problem may be that:**

- The battery temperature is below 0°C or over 45°C. If you think the battery temperature is too hot or too cold, turn off the computer, remove the battery, and let the battery reach room temperature. Then try charging the battery again.
- The battery may be defective, please try running your system from the AC adaptor with the battery removed from the system. Please contact the Samsung helpline if you are unsure.

Battery Calibration

Calibrating your battery once a month is one of the recommended methods of increasing your computer's battery life. To calibrate the battery complete the following steps:

Calibration Notes:
You should start the battery calibration process with a fully charged battery, battery status LED is green. The power meter may not show 100%.

Before you commence the battery calibration process you should fully charge, then fully discharge and finally fully recharge the battery again.

1. Disconnect the AC power adapter after turning off the system.
2. Restart your computer and press **<F2>** to enter BIOS setup.
3. Using the arrow keys, highlight **Smart Battery Calibration** in the **Boot** menu.
4. Press **<Enter>** to start calibration process. The calibration usually takes 3 to 5 hours depending on the current battery charge.
5. When the calibration process is complete, recharge the battery fully.

Using the Hard Drive

Your computer includes a removable IDE (integrated drive electronics) hard drive. The IDE hard drive can store the data and programs your computer uses. The drive plugs into a connector on the system board.

The hard drive that comes with your computer has already been formatted. Do not format the hard drive. Doing so destroys all data contained on the drive. If you need to format a new drive, or want to erase all data on your existing hard drive, refer to the manual for your operating system.

Installing/Reinstalling a HDD

To install a new HDD you should contact a Service Centre, replacement of the HDD is not a user task. You should follow the instructions below before the HDD is replaced.

- Back up data files of your old hard drive.
- For system boot with CD-ROM, under the Boot menu in System setup, set Bootable CD Check to Enabled and set Boot Device Priority is ordered starting from the [DVD/CD-ROM].

When you are ready to install the new HDD, use the Recovery CD-ROM to install the device driver.

(Re)Installing Windows and Device Drivers

Use System Recovery CD to (re)install OS and System Software CD to (re)install device drivers. For details, see “Reinstalling Windows XP” on page 97 and ”Reinstalling Software” on page 95.

Memory Modules

You can increase system memory by installing optional memory modules.

To avoid possible system problems, use only approved memory modules in your computer. Please consult the appropriate sections of this manual, Samsung Technical Support, or the support Web site (www.samsungpc.com) for additional information.

Before You Install Memory

To prevent personal injury and damage to the equipment, follow the precautions listed here before installing a memory module.

Take the following precautions when installing a memory module:

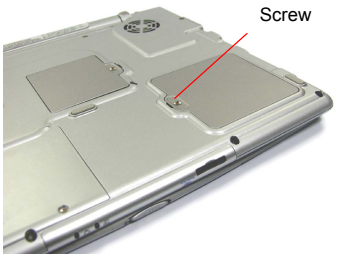
- Before you remove the memory module compartment door, turn off the computer, unplug the power cord, and remove the battery. Also, disconnect any peripheral devices.
- Before handling a memory module, discharge any static electricity by touching a grounded surface or using a grounding wrist strap.
- Do not insert objects with conductive material, such as metal screwdrivers or graphite pencils, into the memory-module compartment.
- Be careful in handling the metal plate of the memory door.

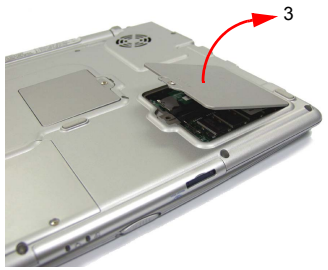
Installing a Memory Module

Handle a memory module carefully. Hold them only by the edges.

To install a memory module:

1. Turn the computer over so that the bottom faces up.
2. Using a screwdriver, remove the screw that holds the memory-module compartment door in place.

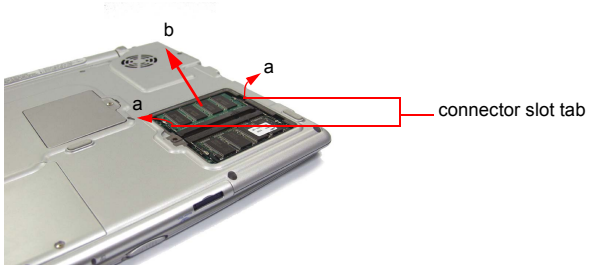




3. Grasp the edge of the door and pull the door off the chassis.

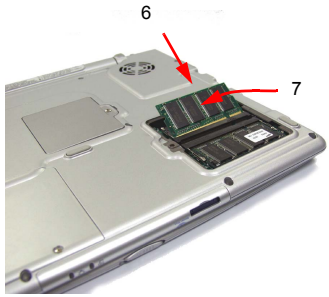
Memory Module Precautions:
When removing the module, pull on the plastic portion of the connector slots tabs only. Do not pull on the metal part of the tabs, this may damage the tabs.

4. Remove the installed module if necessary.
   a. Pull the tabs on the connector slot outward slightly, until the edge of the memory module pops up.



   b. Hold the memory module by the edges and pull it forward out of the compartment.

5. Align the connector on the memory module with the connector of the slot.
6. Push the memory module into the slot at a slight angle (~30^{0}) until the connectors are fully engaged.



7. Push down on the edge of the memory module until the module snaps into place.
8. Align the memory module compartment door with the compartment and push the door down until it snaps into place.
9. Reinstall the screw you removed in step 2.

Using Options

You can select these options at purchase:

- Wireless communication module (802.11b, bluetooth)
- Memory stick slot

You can purchse these options separately:

- Extra battery pack (3 cell/6 cell)
- Battery charger
- Ear set

The options that are available may change periodically. Contact your reseller for updated information on current and new options.

Tips for Using Your Computer

The following information helps you avoid potential problems as you use your computer:

Do not try to disassemble your computer. Opening the system chassis voids your warranty. Only an authorised manufacturer service center can replace or add any parts inside the chassis.

- Follow all the instructions and cautions in your computer user documentation.
- The LCD has a polarized surface and can be damaged easily. To prevent damage, avoid touching the screen.
- Use only approved AC adapters, auto adapters, memory modules and other options.
- Because a notebook computer is small and has restricted air flow around components, it is more likely to overheat than a desktop computer. A fan inside your computer runs when needed to help eliminate heat. Make sure the fan vent on the left side of your computer is not blocked when you use the computer. Occasionally check the vents and remove any accumulated dust on the outside.
- Avoid using or storing the computer in extremely hot or cold areas, such as a car on a hot day. Keep the computer away from heaters and out of direct sunlight. Exposure to excessive heat may damage computer components. If you have left your computer in a hot place, let it cool down slowly to room temperature (with the LCD panel open) before using it.
- Do not remove the memory-module compartment door, or try to install a memory module when the computer is on. (For information on installing memory modules, see “Installing a Memory Module” on page 74.)
- Set up your computer work area to avoid physical strain. Sit with your back straight and supported by your chair. Adjust your chair or work table so that your arms and wrists can remain in a relaxed position, parallel with the floor. Avoid bending or twisting your wrists as you work. Your hands should “float” slightly above the keyboard. Refer to a book on office ergonomics for more information on setting up your work area.
- Take frequent breaks from working at the computer to rest your eyes and stretch your muscles.
- Remember to save your data files frequently and to make backup copies of your files.

Air Travel

If you are travelling by air, follow these tips:

- Take the computer with you as carry-on luggage. Do not check the computer with your baggage.
- Allow the computer and disks to go through the X-ray security devices. Do not hand-carry disks through the walk-through metal detectors, which can cause loss of data.
- Make sure that the battery is charged or the power cord is easily accessible. You may be required to turn on the computer for airport security personnel.
- Be prepared to turn off the computer during take off and landing.

Locking your Computer

As a precaution when you are travelling or using your computer in an unsecured area, you should keep your computer as safe as possible. An option to do this is the Security Lock System. Follow the Security Lock System manufacturers instructions for specific installation and use. The following figure shows generally how to use the lock.

Handling Spills

Do not spill anything on your computer. The best way to avoid spills is to avoid eating and drinking around your computer. If you do spill something on your computer, turn off your computer, unplug it immediately, and do the following:

- If you spill liquid on the keyboard, drain as much of the liquid from the keyboard as possible. Be careful not to let the liquid drip onto the LCD panel. Allow the system to dry for several days before trying to use it.
- If you spill liquid on an external keyboard or keypad, unplug it and drain as much of the liquid as possible. Allow the keyboard to sit at room temperature for a full day before trying to use it.

Sweet liquids leave a sticky residue that may jam the keyboard despite your efforts to dry it.

- If you spill liquid on the LCD panel, clean it immediately with a soft cloth and denatured alcohol or a proprietary LCD screen cleaner. Do not use water, window cleaner, acetone, aromatic solvent, or dry, rough towels to clean it.

Some liquids damage the polarized LCD screen. If your screen is damaged, contact your authorized manufacturer's service center for a replacement.

Storing the Computer for Long Periods

If possible, leave the power cord connected to the computer and an electrical outlet when the computer is not in use. This extends the life of the battery and keeps the battery fully charged.

If you will not be using the computer for a long period of time (a month or more), you should charge the battery until it is completely full. After you have done so, remove the battery from the unit.

Troubleshooting

Complete the following in the order presented until your system is functioning properly. If all of the steps below fail then contact your local reseller for assistance.

Questions and Answers

Please see “Questions and Answers” on page 81 for assistance in correcting any computer operational problems.

Check the Connections

Verify all of the power and peripheral cables are securely plugged into their sockets and that your system and power supply is on.

Norton AntiVirus

Run Norton AntiVirus to ensure a virus is not affecting your computer.

To run Norton AntiVirus proceed as follows:

Click **Start > All Programs > Norton AntiVirus > Norton AntiVirus 2002**.

The Norton Antivirus Subscription on your Samsung notebook will expire within 3 months. It is your responsibility to update the virus definitions, and renew subscription with Symantec when the subscription expires.

Windows Help and Support

Run Windows Help and Support to find problem that may be affecting your computer.

To run Windows Help and Support proceed as follows:

Click **Start > Help and Support.**

Reinstalling Software

If for some reason your system crashes you may corrupt your HDD, Windows operating system and/or some of your device drivers. If this is the case, use **System Recovery CD** to reinstall **OS** and **System Software CD** to reinstall the corrupt device drivers.

System Recovery Precaution:
Before you start restoring your windows operating system insure you backup all data on your hard drive.
Samsung is NOT responsible for any data loss.

Questions and Answers

This section provides information on possible problems, solutions and other references for system use.

Windows Related

Q1 The system does not shutdown properly.

A When the system does not shutdown normally, press and hold the Power button until the system manually shuts off. If the Power-Saving Mode is configured into the Power button, press and hold for more than 4 seconds to shut the system off. When the system is turned on after such manual shutdown, Scandisk will run to check errors in the system.

Q2 The system freezes during program operation

A1 There is an error with the program currently being used. Press the <Ctrl>, <Alt>, and <Delete> keys simultaneously and click and Task in the [Windows Task Manager] window.

A2 There is an error with the Windows OS. Reboot the system by using the Power button.

Display Related

Q1 The LCD screen is blank.

A Adjust the LCD screen brightness. Use the **<Fn+Up Arrow>**, **<Fn+Down Arrow>** keys.

Q2 The screen saver disturbs screen viewing during Media Player or video file operation.

A Under the Media Player Options, in Player > Enable Screen Saver During Use, uncheck the box and restart the player.

Q3 In DOS mode, changing the full screen DOS mode by pressing <ALT+Enter> key displays a broken image for a short period.

A The DOS mode which supports 2 Byte characters such as Korean and Japanese runs in graphic not in text mode. In this case, a broken image may be displayed while changing the video mode settings.

Q4 In the following cases, the screen blinks or displays noise for a short time: (Changing the resolution, changing the display device, removing the AC adapter, restarting the system)

A This may happen while the video driver is examining the connected device.

Q5 When I connected a projector to the computer and pressed <Fn>+<F4 / LCD/CRT> keys, display devices are not converted properly.

A1 Press <Fn>+<F4 / LCD/CRT> keys once more.

A2 Convert display devices on [Graphics controller properties] dialog. (Refer to ”Using External Display Devices” (p 60).)

A3 Press <Ctrl>+<Alt>+<F1> keys to change the setting to CRT, or press <Ctrl>+<Alt>+<F3> keys to change to LCD.

Q6 Extended Desktop is not configured on [Display Properties] dialog. (Start > Control Panel > Appearance and Themes > Display > Settings tab)

A Change the setting to extended desktop on [Graphics Controller Properties] dialog. (Refer to ”Using External Display Devices” (p 60).)

Q7 I pressed <Fn>+<F4 / LCD/CRT> keys, then the screen blinks.

A This problem may occur when you pressed <Fn>+<F4 / LCD/CRT> keys to convert display devices while there is no external display device connected.Connect an external display device first, then convert display devices.

Q8 When I played an audio file (Mid/Mp3/Wave) on Windows Media Player, the screen resolution is changed or the screen is not displayed.

A This problem may occur when you press <Fn>+<F4 / LCD/CRT> keys or <Ctrl>+<Alt>+<F1 or F3> keys while using the Windows Media Player in full screen mode.Do not use these keys while playing the Windows Media Player.

<Ctrl>+<Alt>+<F1> keys change the display setting to CRT, and <Ctrl>+<Alt>+<F3> keys to LCD.

Q9 When I changed display properties setting and restarted the computer, the property is converted to the prior setting.

A Change the setting on [Display Properties] dialog and apply immediately without restarting the computer.

Q10 When I played a DVD or an MPEG file while the display is set to Dual Display Clone, the video file is interrupted while playing or displayed only on one display device.

A1 Press <Fn>+<F4 / LCD/CRT> keys to change the display setting to Dual Display, then play a DVD or an MPEG file.

A2 Set the display to Dual Display Clone as follows, then play a DVD or an MPEG file.

1. Press touchpad right button on the desktop.
2. Click Graphic Options > Graphic Properties > Devices tab.
3. Select Dual Display Clone, then select "Same display configuration driven on both displays" check box.
4. Click OK.

A3 If above methods do not solve the problem, change the setting to display only on the LCD.

Q11 <Fn>+<F4 / LCD/CRT> keys does not operate.

A When you are playing video file such as a video CD, an MPEG file, or a DVD, when no external display is connected, or when you are using the extended desktop mode or full screen DOS mode, you cannot change display devices.

Q12 When I played a DVD or a video CD in dual display clone or extended desktop mode, actions such as changing the display setting or adjusting the volume operates slowly.

A Playing a DVD or a video CD requires additional data processing. In dual display clone or extended desktop mode, data volume involved in this process exceeds the volume the video chip can handle simultaneously, causing a problem.Change the display device to display through either one, the LCD or the external display device.

Q13 When the computer enters standby mode or hibernate mode, screen of a connected TV is broken for a short time.

A This problem may occur in some wide screen TVs. After a short time, the TV turns off properly.

Q14 When I restarted the computer from hibernate mode, the screen is not displayed properly.

A This problem may occur when the TV is set to primary display device, and the CRT to secondary. Change the display device differently. (Refer to ”Using External Display Devices” (p 60).)

Q15 When I connected and used a projector, the screen is broken for a short time.

A When you use DOS mode with some projectors, this problem may occur while changing the video mode. The screen is displayed properly after a short time.

Q16 When I set the extended desktop to display through both LCD and TV and restarted the computer, the setting is changed to dual display mode.

A Set to extended desktop again on [Graphics Controller Properties] dialog. (Refer to ”Using External Display Devices” (p 60).)

Q17 When I changed the screen resolution in extended screen mode and restarted the computer, the screen is not displayed properly.

A This problem may occur when the display is set to "Restart the computer before applying the new display settings". (Start > Control Panel > Appearance and Themes > Display > Settings tab > Advanced > General tab)

1. Click Start > Control Panel > Appearance and Themes > Display > Settings tab > Advanced > General tab. Select "Apply the new display setting without restarting" and click OK.
2. Change the screen resolution on [Graphics Controller Properties] dialog, and apply immediately without restarting the computer. (Refer to ”Using External Display Devices” (p 60).)

Modem Related

Q1 I cannot hear the modem sound.

A1 Check that the telephone line is properly connected to the modem.

A2 Check that the modem driver is installed properly.

1. Click Start > Control Panel > Performance and Maintenance > System.
2. Select Hardware tab > Device Manager > Modems in the System Properties window, and check if there is a yellow exclamation mark on the installed modem icon. If there is, delete the modem device driver and reinstall the driver, because the yellow exclamation mark represents a not properly installed driver.
3. If there is no yellow exclamation mark, double-click the installed modem, and click Diagnostics tab > Query Modem in the Modem Properties window to diagnose the modem.

   No message in either of Command and Response in the Diagnostics tab means that the modem is not operating properly.

   Diagnose the modem again after restarting the system or reinstalling the driver.

   (You have to exit all programs using modem in the advance of diagnostics of the modem).

A3 Although I can make a connection with the modem, I cannot hear the dial tone and modem connection sound. In this case check the following list:

1. Click Start > All Programs > Accessories > Entertainment > Volume Control.
2. Clear the Mute check box in the Telephone Line item.
   (Depending on the sound driver, it may be displayed as another name such as Modem, Phone, Mono. If there is no corresponding item, click Options > Properties > Volume Control, select 'Playback', and select the 'Telephone Line' under the 'Display the following volume controls'. Click OK.)

Q2 I cannot make a call using an extension line.

A In general, the dial tone of a PBX or a digital phone switching system is not a continuous one, unlike that of trunk line.

Therefore, the modem may not make a call because the modem mistakes the dial tone from a PBX or a digital phone switching system as a busy tone.

In this case, complete the following procedures.

- Using an AT command

As an initialization command, use the command, ATX3.

Otherwise, enter the ATX3 command manually before making a call.

It can correct this problem by skipping the dial tone check step.

- Configuring the Modem through the Control Panel

1. Click Start > Control Panel > Network and Internet Connections.
2. Under See Also, click Phone and Modem Options.
3. In the Modems tab, select the installed modem, and click Properties.
4. In the Modem tab of the Modem Properties window, clear the 'Wait for dial tone before dialing' check box.
5. When the configuration is completed, click OK.

Q3 How do I use my modem when dialing from overseas?

A1 Check that the modem is correctly configured according to the current country. Because the values for communication may differ according to the country, you may not be able to connect via the modem due to an incorrect modem configuration.

1. Click Start > Control Panel > Network and Internet Connections.
2. Under See Also, click Phone and Modem Options.
3. In the Dialing Rules tab, click Edit.
4. In the General tab in the Edit Location window, select the current country from the Country/region radio box, specify the Area code, and click OK.

A2 Because the shape of the telephone plug may differ according to the country, you have to purchase and use the appropriate telephone plug for that particular country.

Q4 How do I receive a fax while the system is in power saving mode (Rest mode) (For Windows XP and 2000)?

A To receive a fax when the system is in power saving mode, and the operating system is Windows XP or 2000, configure the system as follows:

1. The automatic fax reception function of the fax program needs to be activated. (For more information, refer to the corresponding fax program manual.)
2. Click Start > Control Panel > Network and Internet Connections.

3. Under See Also, click Phone and Modem Options.
4. In the Modems tab, select the installed modem, and click Properties.
5. In the Power Management tab of the Modem Properties window, select the "This device activates the computer in power saving mode" check box, and click OK.

   The above setting enables the modem to turn on the system and receive a fax when in power saving mode.

Wireless LAN Related

Q1 The Wireless LAN device is operating properly, but I cannot connect to the network.

This is due to an incorrect configuration, or a configuration error. Check the following check lists:

A1 If you are using a computer-to-computer network (peer-to-peer) connection, check that the name of the configured network is correct. The network name used to connect should be the same in all computers. The network name is case sensitive, if the name contains letters.

A2 If you are using a network key (encryption key), an AP (Access Point) and a computer-to-computer network (peer-to-peer), you have to use the same network key. The network key of the AP is configured in the AP management program. Ask your network administrator for more detailed information.

A3 Check that the device driver is properly installed. If the driver is not properly installed, you will find a yellow exclamation mark on the network icon by clicking Start > Control Panel > Performance and Maintenance > System > Hardware tab > Device Manager > Network adapters > Wireless LAN adapter. If there is a yellow exclamation mark, please reinstall the device driver with the system software CD.

A4 To connect to an access point using network authentication (Shared key):
- In Windows XP, select Network Authentication (Shared mode) in the Wireless Network Properties window.
- If you use the wireless LAN program (PROSet) in Windows 2000, make sure that the network authentication mode is configure to Shared in security settings.
For more information on the network authentication configuration procedures, ask your access point administrator.

Q2 The signal strength is excellent, but I cannot connect to the network.

Even if the signal strength is excellent, the network connection may not operate properly if the TCP/IP properties are not properly configured, or the network key (encryption key) is incorrect.

A1 Check that the TCP/IP properties are configured properly. When you connect to an AP, click the Wireless Network Connection icon on the taskbar and select the Support tab. If the IP is not allocated properly, the IP address will be displayed as follows. (e.g. 169.254.xxx.xxx)
If the network does not provide DHCP, you have to specify the correct IP address by asking your network administrator.

Even if the network provides DHCP, the server may not allocate an IP address to the client properly, and the client station cannot connect to the network.

A2 Referring to A2 of Q1, check that the network key is correct.

Q3 I cannot share an Internet connection.

A1 It may require some time to synchronize the computers to share an Internet connection after the Internet connection sharing configuration is completed. If you cannot share Internet connection even after a longer period, restart the computer.

A2 Check if there is a configured bridge connection between the network adapters. If there is a configured bridge connection between the network adapters through the network configuration wizard, remove the network bridge, and reconfigure the Internet connection sharing.

Q4 I cannot connect to the AP wireless network.

A1 Check the wireless LAN radio environment. Using a wireless LAN may be restricted by the surrounding radio environment, and the distance between wireless stations. Also obstacles such as walls or doors may affect wireless LAN connections.

A2 Check that the AP is operating properly. Turn the AP off, and turn it on after a short wait.

A3 Check that the network key (encryption key) configuration for the AP is correct.

A4 Check if the wireless LAN/Bluetooth button on the upper part of the keyboard is switched off. If the wireless button is switched off, press the button to switch the wireless function on.
If you are using Windows 2000, check if switch radio is set to "On" on the General tab of PROSet program. If is set to "Off", change it to "On".

Q5 In the Windows XP 'Available wireless networks' window, the Wireless Network Connection is displayed as 'Not Available'.

A1 Check that the specific program for a wireless LAN connection is installed. Windows XP supports wireless LAN connections through the Wireless Zero Configuration (WZC) service. Therefore, an additional program for a wireless LAN connection is not required. However, installation of the specific program for a wireless LAN connection may disable the 'Available wireless networks' window of the Wireless Network Connection supported by WZC service in certain cases. Exit the program and try again.

A2 Initialize the device driver.
Click Start > Control Panel > Performance and Maintenance > System > Hardware tab > Device Manager > Network adapters, and select the wireless LAN adapter. Right-click the network adaptor and select 'Disable'. Then right-click over the network adaptor and select 'Enable' after a short wait to check that the device is operating properly.

Q6 The Wireless network connection operates properly, but the Wireless Network Connection icon on the Taskbar displays the "Disconnected" message.

A This is one of the known problems when you are using a wireless LAN connection after installing Windows XP service pack 1.

Check that the wireless LAN card is operating properly by initializing the device driver referring to A2 of Q5. For more information, refer to the following link for known problems with Microsoft.
http://support.microsoft.com/default.aspx?scid=kb;en-us;Q328647

Q7 When connecting to a computer-to-computer (Ad Hoc) network, I cannot connect to another computer connected to the same computer-to-computer network.

A1 Make sure that the security settings and network name of the computer-to-computer (Ad Hoc) network is correct.

A2 Check the TCP/IP properties of the computers to be connected through the computer-to-computer (Ad Hoc) network. All of those computers should be configured so that their IP addresses are within the same subnet range.
- If the IP address is configured to DHCP (Obtain an IP address automatically) in TCP/IP properties, IP address is configured within the same subnet range automatically.
- If the IP address is configured to static IP in TCP/IP properties, select Use the following IP address in the TCP/IP properties of the wireless adapter, configure IP address:10.0.0.1~10.0.0.254, and Subnet mask: 255.255.0.0, and then try again.

Q8 When using a computer-to-computer (Ad Hoc) network, sometimes I cannot search some access points.

A It may happen occasionally when you are using a computer-to-computer (Ad Hoc) network connection. Even if you cannot find some access points, the

computer-to-computer (Ad Hoc) network is operating properly. Click Refresh to view the latest search result.

Q9 Running Help file while running Profile Wizard in the wireless LAN program (PROSet) makes the PROSet window white.

A It will be displayed properly when you finish the profile wizard. It dose not affect the program operation.

Q10 I installed the WLAN Configuration Program, but it does not operate properly.

A Install the WLAN Configuration Program and restart the computer before using the program.

Games and Programs Related

Q1 3D game is not executed, or some functions are not working.

A Change the graphic setting of the game to '2D' or 'Software Renderer', then execute the program again.

Q2 I launched a game right after installing it, and the game is not executed.

A This problem may occur when the game is not compatible with Windows XP. Launch the game again, and it will be executed properly.

Q3 When I played a game, the screen is displayed in reduced size.

A1 Before executing a game, press touchpad right button on the desktop, and click Graphics Options > Panel Fit > Enable.

A2 Change the display setting to extended desktop mode before executing a game.

1. Press touchpad right button on the desktop.
2. Click Graphic Options > Graphic Properties > Devices tab.
3. Select Notebook, then select "Full Screen" check box.
4. Click OK.

Q4 While playing a 3D game, I tried to change display devices using <Fn> + <F4/LCD/CRT> keys, then the system does not operate.

A When you use <Fn> + <F4 / LCD/CRT> keys while playing a 3D game, a system error may occur.
Do not use <Fn> + <F4 / LCD/CRT> keys while playing a 3D game.

Q5 <Fn+F4/ LCD/CRT> Key combination does not work.

A While displaying video of VCD or MPEG, or the display setting is Dual View, you cannot toggle display devices. Also the installation of NetWare Client 32 program disables the function of <Fn+F4/ LCD/CRT>.

Q6 When you switched display devices using <Fn>+<F4 / LCD/CRT> keys while playing a game, the screen is not displayed properly.

A This problem may occur in some games. Use <Fn>+<F4 / LCD/CRT> keys before starting a game, and not during playing the game.

Q7 Running speed of a game is too slow or fast.

A Change the setting of Power Schemes to 'Always On'.
(Click Start > Control Panel > Performance and Maintenance > Power Options > Power Schemes tab, then configure the Power schemes field to 'Always On'.)

Q8 Pressing <Fn>+<F2/Gauge> keys while running a game may cause abnormal operation of the system.

A Do not press <Fn>+<F2/Gauge> keys while a game is running, because it may cause a system error.

Q9 When I played Mech Warrior 4 game, the screen is not displayed properly.

A In some games such as Mech Warrior 4 or NHL 2003, mouse afterimage may be displayed on the screen, but the game still runs normally.

Q10 The screen is not displayed properly after exiting a game.

A This problem may occur in some games.Press <Fn>+<F4/ LCD/CRT> keys to change display devices, then the screen is displayed properly. When you press those keys while no external display device is connected, the screen will blink for a short time and then display properly.

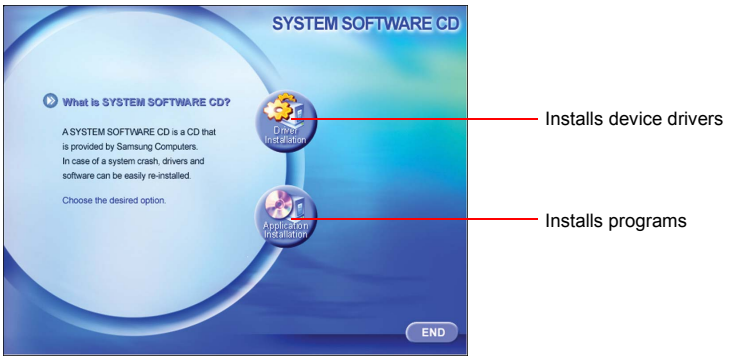
Reinstalling Software

If you have reinstalled the Windows operating system, or the system and program do not operate properly, you can re-install the driver and program using the system software CD.

The drivers and programs included in the system software CD are listed in the D:\ReadMe.htm file. (Provided that the name of CD-ROM drive is "D".)

Running the system software CD

Insert the system software CD into the CD-ROM drive. The initial screen appears automatically.


SYSTEM SOFTWARE CD
What is SYSTEM SOFTWARE CD?
A SYSTEM SOFTWARE CD is a CD that is provided by Samsung Computers. In case of a system crash, drivers and software can be easily re-installed.
Choose the desired option.
Driver Installation
Application Installation
END
Installs device drivers
Installs programs

Installing drivers

1. In the initial screen, click **Install drivers**.
2. Select the driver you want to install from the device installation screen, and click **Install**.

How can one install the drivers for operating systems other than Windows XP?
Install the appropriate driver software included in the system software CD.

Installing programs

1. In the initial screen, click **Install programs**.
2. Click **Standard installation** in the program installation screen (standard installation is recommended).
   - **Standard installation**: Installs and recovers programs to the state of shipment.
   - **User installation**: You can select the program installation location, and other options for the program installation.

Reinstalling Windows XP

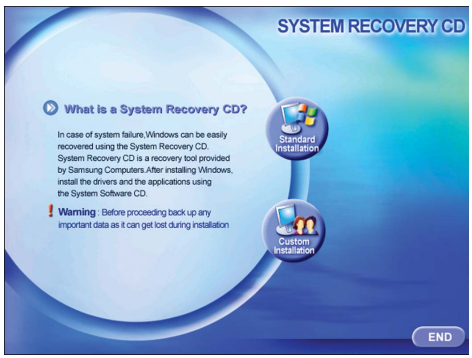
If the Windows XP does not operate properly due to an error in the system, or if you have replaced the hard disk drive, you can reinstall Windows XP using the system recovery CD.

With the system recovery CD, you can reinstall Windows XP only. To return the system to the state of shipment, reinstall the device drivers and programs with the system software CD after reinstalling Windows XP with the system recovery CD.

Reinstalling Window may delete the data on the hard disk drive such as files, programs, etc. In order to minimize damage from data loss, please remember to always back up data. Samsung Electronics is not liable in the case of data loss, please consult your warranty statement for clarification.

Reinstalling Windows

1. Insert the system recovery CD into the CD-ROM drive.
2. In the initial screen, click **Standard installation**. (Installation with the standard installation option is recommended. The standard installation does not require steps 5 and 7.)


SYSTEM RECOVERY CD
What is a System Recovery CD?
In case of system failure,Windows can be easily recovered using the System Recovery CD. System Recovery CD is a recovery tool provided by Samsung Computers.After installing Windows, install the drivers and the applications using the System Software CD.
Warning : Before proceeding back up any important data as it can get lost during installation
Standard Installation
Custom Installation
END

- **Standard installation**: Installs Windows preserving the data saved on the hard disk drive. However, since personal data that is in the Windows folder may be deleted, please backup personal data.
- **Custom installation**: Enables Windows installation after partitioning or formatting the hard disk drive. Note that all data on the hard disk drives may be deleted depending on your configuration.

3. The description for the standard installation appears. Click **Yes**.
   The installation starts, and the system will be restarted after a while.
4. After the system has restarted, the message 'Press any key to boot from CD' appears. Do not press any key at this time. After a while the partition configuration screen appears.
   To not change the partition, press **<Enter>**.

What is partition configuration?
Partition configuration is a function that devides the hard disk drive into one or several partitions. Note that changing the partition deletes all of the data on the hard disk drive.

5. Select the desired file system (format).
   To maintain the current file system, press **<Enter>**.

What is Format?
Format is an operation that initializes the hard disk drive. Since formatting operation deletes all content on the hard disk drive, use Format with great care.

6. Select the folder to install the Windows operating system.
   To delete the previous version of Windows and install in the current folder, press **<L>** on the keyboard.

Note that selecting 'Use another folder to install' creates a new windows folder and installs Windows in dual boot mode.

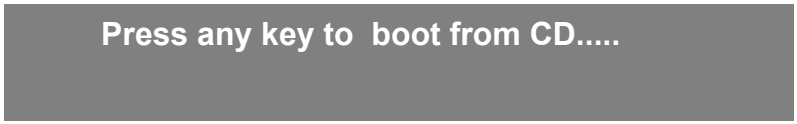
7. The Windows XP installation wizard appears. Proceed installation according to the instructions provided by the Windows XP installation wizard.
   When the installation is completed, the computer will restart.
8. After the system has restarted, the message 'Press any key to boot from CD' appears. Do not press any key at this time.

The Windows installation has been completed. Remove the system recovery CD, and insert the system software CD into the CR-ROM drive to install the device drivers and programs.

If You Cannot Run Windows

If you cannot run Windows, you have to boot the system with the system recovery CD, and reinstall Windows. If you boot the system from the system recovery CD, you can install Windows only with the user installation option. You cannot install with the standard installation option.

1. Insert the system recovery CD into the CD-ROM drive and start the computer.
2. If the following message appears on the screen, press any key from the keyboard.



This message appears only when the CD drive has booting priority. If the message does not appear, configure the CD drive as the first booting device referring to ”Changing Booting Priority” on page 55.

3. After a while, the partition configuration screen appears. Complete the installation referring to ”Reinstalling Windows” on page 97.

Specifications

System Specification

The following is the basic hardware specification for the purchased product. Variations may exist depending on the model type.

Item	Specification	Remarks
CPU	Intel PentiumM 1.3~1.7 GHz	
Cache memory	1MB	
Main memory	128/256/512/1024 MB DDR SDRAM, 2 DDR socket	Maximum 2GB
Main Chipset	Intel 855GM/ICH4M	
Hard disk drive (HDD)	2.5'', UltraDMA 100, S.M.A.R.T 9.5mmH	
CD Drive	CD-ROM drive/ CD-RW drive/DVD-ROM drive/ CD-RW/DVD-ROM Combo drive	Optional
Graphics	Intel 855GM Internal Graphics Default : 1024x768 pixel, XGA Memory : 8~32MB (shared memory)	
Sound	Sigmatel STAC9752 (AC97 CODEC)	
Network Interface	Modem : SENS LT56ADM (PC2001 Compliance) Wired LAN : LAN 10/100 Base T Ethernet Wireless : Wireless LAN 802.11b / Bluetooth (Optional)	
PCMCIA Slot	Type I and II Compatible	
Memory Stick Slot	Support up to 128MB	Optional
Ports	IEEE 1394 (4 pin), USB 2.0 (x 2), microphone, headphone, S/PDIF, modem(RJ-11), LAN(RJ-45), monitor, and TV out(S-VHS)	
Options	Lithium-Ion smart battery, car adapter, external battery charger	
Dimensions (mm)	315.5 X 259 X 24.4	W x D x H
LCD Panel Size	14.1" XGA TFT LCD	
Weight	2.0Kg	
Battery	Lithium-Ion smart battery	
Operation Environment	Temperature (storage) : -5 ~ 40°C (operation) : 10 ~ 32° C Humidity (storage) : 5% ~ 90% (operation) : 20% ~ 80%	
Operation Voltage	100 - 240 VAC	
Frequency	50 - 60 Hz	
Input/Output Power	1.5A 100V ~ 0.8A 240V/60W	
Output Voltage	19.0 VDC	

* Please refer to the product catalog or consult your product provider for availability when purchasing optional accessories for this system.

Wireless LAN Specification

Product Specification

Item		Detailed Specifications
Physical Specifications	Dimensions	(Width X Height) 59.75 X 44.45 mm
	operation temperature and humidity	Same as system operation
		Temperature: 0°C ~ 70°C Humidity: less than 85%
Power Specification	Power Saving Mode	135 mW
	Receiving Mode	1.0 W
	Transmission Mode	1.6 W
	Power	3.3V
Network Specifications	Compatibility	IEEE802.11b standard (DSSS) Mini-PCI Rev.1.0
	Operating System	Microsoft Windows XP, 2000 - NDIS5 Miniport Driver
	Media Access Protocol	CSMA/CA (Collision Avoidance) with Acknowledgement(ACK)
	Security	Wired Equivalent Privacy support (WEP) 64bit / 128bit

Radio Specifications

RF Band	2.4 GHz			
Support Channels	1~13 channel (See "Regulatory Notice for Channel Use in France".)			
Device	Transceiver Direct Sequence Spread Spectrum (DSSS)			
Modulation Scheme	Direct Sequence Spread Spectrum (DSSS) CCK for high and mid transmission rate DQPSK for standard transmission rate DBPSK for low transmission rate			
Standard Output Power	5 mW			
Transmission Rate	High Speed	Mid Speed	Standard	Low Speed
	11 Mb/s	5.5 Mb/s	2 Mb/s	1 Mb/s
Antenna Type	Internal antenna (TX/RX)			

Regulatory Notice for Channel Use in France

The number of channels that can be used for wireless LAN differs from country to country. In France however, use only 4 channels (channel 10, 11, 12, 13) when using wireless networks.

- Standard: IEEE 802.b
- Regulation: ETSI 300 328, CE Marked
- Channel Allocation:
  - Channel 10 (2457 MHz)
  - Channel 11 (2462 MHz)
  - Channel 12 (2467 MHz)
  - Channel 13 (2472 MHz)

Abbreviations

A . . . . . Amperes
AC . . . . . Alternating current
ACPI . . . . . Advanced Configuration and Power management Interface
APM . . . . . Advanced Power Management
ATA. . . . . AT attachment (refers to the hard-drive interface in an AT-compatible computer)
ATAPI. . . . . AT attachment packet interface
BBS . . . . . Bulletin board system
BIOS . . . . . Basic input/output system
C . . . . . Centigrade
CD . . . . . Compact disc
CD-ROM . . Compact disc read-only memory
cm . . . . . Centimeters
COM . . . . . Communication (as in communication port)
CMOS . . . . . Complementary metal-oxide semiconductor
DC . . . . . Direct current
DMA . . . . . Direct memory access
DPMS . . . . . Display power-management signaling
DRAM. . . . . Dynamic random access memory
DSTN . . . . . Double layer super twist nematic
ECP . . . . . Extended capabilities port
EPP . . . . . Enhanced parallel port
g . . . . . gram
G . . . . . Gravity
GB . . . . . Gigabytes
hr . . . . . hour
Hz . . . . . Hertz
IDE . . . . . Integrated drive electronics
I/O . . . . . Input/output
IRQ . . . . . Interrupt request line

ISA . . . . . Industry Standard Architecture
KB . . . . . Kilobytes
kg . . . . . Kilograms
LAN . . . . . Local-area network
lb. . . . . . Pounds
LBA . . . . . Logical block addressing
LCD . . . . . Liquid-crystal display
m . . . . . Meters
mA . . . . . Milliampere
mAhr . . . . . Milliampere hour
MB . . . . . Megabyte
mm . . . . . millimeter
MPEG . . . . . Motion Picture Experts Group
MPU . . . . . Microprocessor unit
ms . . . . . Millisecond
PDF . . . . . Portable document format
PC . . . . . Personal computer
PCI . . . . . Peripheral component interconnect
PCMCIA . . . Personal Computer Memory Card International Association
POST . . . . . Power-on self-test
PNP . . . . . Plug and play
PS/2 . . . . . Personal System/2
RAM . . . . . Random-access memory
ROM . . . . . Read-only memory
SVGA . . . . . Super video graphics array
TFT . . . . . Thin-film transistor
USB . . . . . Universal serial bus
V . . . . . Volt
VAC . . . . . Voltage alternating current
VCC . . . . . Voltage collector current
VDC . . . . . Voltage direct current
whr . . . . . Watt hour

Glossary

AC adapter
The AC (or alternating current) adapter regulates current coming into your computer from the wall outlet. The current at the wall outlet is alternating current and needs to be changed by the adapter to DC (direct current) before your computer can use it for power.

ACPI
ACPI (Advanced Configuration and Power Interface)- a method for describing hardware interfaces in terms abstract enough to allow flexible and innovative hardware implementations and concrete enough to allow shrink-wrap OS code to use such hardware interfaces.

BIOS
BIOS stands for basic input/output system. The BIOS is software (often called firmware) that is independent of any operating system. It enables the computer to communicate with the screen, keyboard, and other peripheral devices without using programs on the hard disk.
The BIOS on your computer is flash BIOS, which means that it has been recorded on a flash memory chip that can be updated if needed.

Boot
To start your computer. A cold boot resets the entire computer and runs through all computer self-tests. A warm boot clears out computer memory only.

Boot disk
A disk containing operating system programs required to start your computer. A boot disk can be a floppy disk, hard drive, or compact disc.

Byte
The basic unit of measure for computer memory. A character—such as a letter of the alphabet—uses one byte of memory. Computer memory is often measured in kilobytes (1,024 bytes) or megabytes (1,048,576 bytes).
Each byte is made up of eight bits. For more information on bytes and bits, see an introductory book on computers.

Cache memory
Cache is very fast, zero-wait-state memory located between the microprocessor and main memory. Cache reduces the average time required by the microprocessor to get the data it needs from the main memory by storing recently accessed data in the cache.

CardBus

CardBus technology enables the computer to use 32-bit PC Cards. Hardware in the computer and the Windows operating system provide support for the 32-bit cards. The voltage of 32-bit cards (3.3 volts) is lower than that of 16-bit cards (5 volts). The 32-bit cards can transmit more data at a time than the 16-bit cards, thus increasing their speed.

CMOS memory

CMOS (complementary metal oxide semiconductor) memory is powered by the CMOS battery. The System Setup settings and other parameters are maintained in CMOS memory. Even when you turn your computer off, the information in CMOS memory is saved.

COM port

COM stands for communication. COM ports are the serial ports in your computer.

Compact Disc

A compact disc (CD).

Conventional memory

The first 640 KB of system memory. Operating systems and application programs can directly access this memory without using memory-management software.

Disk

The device used by the computer to store and retrieve information. *Disk* can refer to a floppy disk, hard disk, or RAM disk.

Disk cache

A software device that accumulates copies of recently used disk sectors in RAM. The application program can then read these copies without accessing the disk. This, in turn, speeds up the performance of the application.

A cache is a buffer for transferring disk sectors in and out of RAM. Data stored in a disk cache is a copy of data already stored on the physical disk.

DMA (direct memory access)

A method of transferring data from a device to memory without having the data pass through the microprocessor. Using DMA can speed up system performance.

DPMS

Display Power Management Signalling. Displays or monitors that comply with this can be managed by the Power Management features found in the system setup.

Floppy disk

A removable disk, also called *floppy* or *diskette*.

Hard drive

Also called *fixed* disk. A hard drive is connected to the computer and can be installed or removed. Data written to a hard drive remains until it is overwritten or corrupted.

The 2.5-inch hard drive in your computer was designed for use in a notebook computer. Because hard drives in notebook computers are smaller than those in desktop computers, their maximum storage capacity may be less than that of desktop hard drives. However, because of their smaller size, the drives handle shock and vibration better than larger drives, which is important for a notebook computer.

I/O

Input/output. Refers to peripheral devices, such as printers, that are addressed through an I/O address.

I/O address

I/O stands for input/output. Peripheral devices, such as printers, are addressed through the I/O port address.

IRQ (interrupt request line)

The IRQ is a hardware line that a device uses to signal the microprocessor when the device needs the microprocessor's services. The number of IRQs is limited by industry standards.

LCD (liquid-crystal display)

The LCD screen on your computer differs from the display screen of a desktop monitor. Most desktop monitors use CRT (cathode-ray tube) displays, which work by moving an electron beam across phosphor dots on the back of the screen. The phosphor dots light up to show the image. LCDs use a liquid-crystal solution between two sheets of polarizing material. Electric current passing through the liquid aligns the crystals so that light can or cannot pass through them, creating an image.

MB (megabyte)

1,024 kilobytes.

Megabit

1,048,576 bits or about 128 kilobytes.

Operating system

A program that supervises the computer's operation, including handling I/O. Application programs and users can request operating-system services. A user might request operation-system services to copy files or format a disk. An application program might use the operating system to obtain keyboard input, write data to a file, or write data to a screen.

PC Card

PC Card stands for personal computer card. The Personal Computer Memory Card International Association (PCMCIA) defines the standards used to develop all PC Cards. PC Card types include: modems, Ethernet adapters, SCSI adapters, ATA cards, and memory cards.

PC slot

The PC slot is the hardware slot in the computer where the PC Card is placed.

Pixel

A pixel is an individual dot in a graphic displayed on your computer. The pixels are so close together that they look as though they are connected. An LCD screen displays thousands or millions of pixels.

Plug and Play

A plug and play operating system automatically configures computer components to work with your system. With this type of operating system, you normally do not need to set jumpers on devices or set memory addresses or IRQs.

RAM (random access memory)

The computer's system memory, including conventional and extended memory. You can write to and read from RAM. Information stored in RAM is temporary, and is erased when the system is turned off.

Refresh rate

The refresh rate is the rate at which the image on the LCD screen is rewritten to the screen. A fast refresh rate helps keep the image from flickering.

Resolution

The resolution is the sharpness or clarity of the image on your LCD screen. Resolution is measured by the number of pixels the computer’s screen can display. For example, a resolution of 800 x 600 means that the screen can display 800 pixels in row and can display 600 rows. The more pixels displayed, the higher the resolution and the better the image.

ROM (read-only memory)

Permanent computer memory dedicated to a particular function. For example, the instructions for starting the computer when you first turn on power are contained in ROM. You cannot write to ROM. (ROM is not the same as RAM).

Sector

Also known as *disk sector*. The portion of a track that is numbered and can hold a specified number of characters (usually 512 KB).

Shadow RAM

A write-protected area of RAM that contains a copy of the BIOS. As the computer boots, the BIOS is copied from its permanent location in ROM to RAM. The BIOS can be executed much faster in RAM than in ROM. The BIOS remains in shadow RAM until you turn off the computer.

TFT (thin film transistor) LCD

A TFT LCD uses a separate transistor circuit to control each pixel. This technology provides the best resolution for an LCD screen. A TFT LCD is also sometimes called an active matrix LCD.

Using Windows 2000

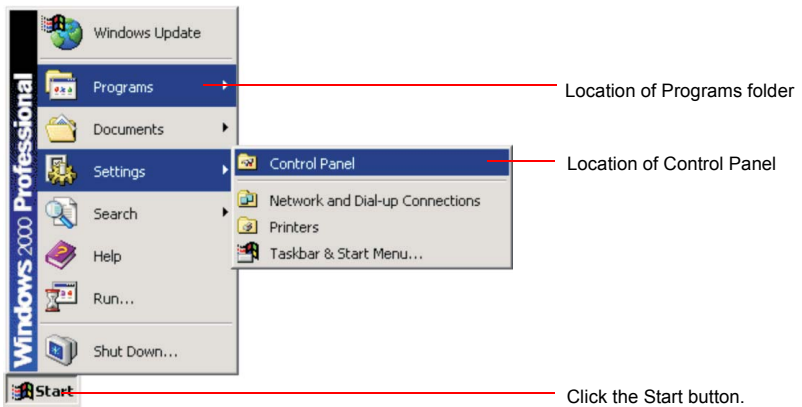
Samsung notebook provides Windows XP or 2000 as operating system depending on the product model.

Because the use of Windows XP is similar to Windows 2000, the same User Guide (Online Manual) is used regardless of operating system installed on your notebook. However, since there are some differences in menus, screens, and operations, you need to refer to this Guide if your notebook's operating system is Windows 2000.

Registering Windows 2000

The procedure for registering your Windows presented in the Installation Guide is explained based on Windows XP. However, because registration procedure for Windows 2000 is similar, you can proceed the registration by following the direction displayed on the screens.

Locations of Programs folder and Control Panel



Introducing Windows

Descriptions presented in ”Introducing Windows” (p 17) are applicable only to Windows XP. For Windows 2000, location of menus, shape of icons and some uses may differ from those of Windows XP.

To Playback Audio or Video CD

Just insert your audio or video CD into your CD drive. The associated application program will start automatically and playback the audio or video files.

If your video CD is not played back automatically, locate and run the video file (for example, DAT file) to playback on your video CD.

Writing Data to CD (Applicable to the model equipping with CD-RW)

Descriptions in p24”To write data on a CD (Option)” (p 24) section are applicable only to Windows XP. For using CD-RW drive on Windows 2000, refer to the CD-RW manual provided separately with your CD-RW.

Reinstalling Windows 2000

For reinstallation of Windows 2000, refer to ”Reinstalling Windows XP” (p 97) section in the User Guide. The installation procedure for Windows 2000 is similar to Windows XP, but some screens may differ.